BEST AVAILABLE COPY

A1175-1 A

American Cancer Society

CANCER FACTS & FIGURES 1980

*Excluding non-melanoma skin cancer and carcinoma in situ.
Based on rates from the NCI SEER Program (1973-1976).

CONTENTS

BASIC DATA 3,4
General: definition, treatment, incidence, survival, mortality and prevention
SOURCES OF INCIDENCE AND MORTALITY STATISTICS 4
HOW CANCER WORKS 4
HIGH RISK FACTORS. 4,5
CANCER RATES IN BLACKS AND WHITES. 5
CANCER TRENDS. 5,6
Overall: incidence, mortality, survival 5,6
Individual Sites 6
TRENDS IN DIAGNOSIS AND TREATMENT 7
CHARTS AND TABLES. 8-14
1980 Estimated New Cases by States . . . . . Front Cover
1980 Estimated New Cases and Deaths, Major Sites 8
Five-year Survival Rates for Selected Sites . . .8
1980 Estimated Cancer Incidence by Site and Sex 8
1980 Estimated Cancer Deaths by Site and Sex 8
1980 Estimated New Cancer Cases, Deaths by Sex for all Sites. 9
1980 Estimated New Cases, All Sites, by State. 10
1980 Estimated Cancer Deaths, All Sites by State. 11
Female Cancer Death Rates by Site. 12
Male Cancer Death Rates by Site. 12
Trends in Age-Adjusted Cancer Death Rates. 12
Mortality for 5 Leading Sites by Age Group, Sex. 13
Mortality for Leading Causes of Death: 1977 13
How to Estimate Cancer Statistics Locally 13
Cancer Around the World 14
LUNG CANCER AND SMOKING 15,16
BREAST CANCER 16,17
Demonstration Projects. 17
UTERINE CANCER 17,18
Cervical 17
Endometrial 18
COLON-RECTUM CANCER. 18
SKIN CANCER. 18,19
ORAL CANCER 19
LEUKEMIA 19,20
CANCER IN CHILDREN 20
AMERICAN CANCER SOCIETY 20
PUBLIC EDUCATION 21,22
Seven Warning Signals 22
Safeguards. 22
PROFESSIONAL EDUCATION 22,23
Clinical Fellowships. 22
Clinical Professorships. 23
Unproven Methods of Cancer Management 23
SERVICE AND REHABILITATION 23,24
Service. 23,24
Rehabilitation 24
RESEARCH 24
List of ACS Research Grants and Fellowships 25
Kinds of Grants. 26
The Financial Research Picture 26
Table of Funded and Unfunded Grants. 26
ACS Supported Nobelists 27
Current Researchers 27
CANCER AND THE ENVIRONMENT. 27
Environmental Cancer Research 28
Cancer Prevention Study. 28
Studies of Occupational Groups 28
COSTS OF CANCER 29
BUDGET ALLOCATIONS 29
SOURCES OF INCOME 30
CELEBRITIES AND CANCER. 30
COMPREHENSIVE CANCER CENTERS. . . .31
CHARTERED DIVISIONS OF THE AMERICAN CANCER SOCIETY, INC.. . . . . .Back Cover

© 1979; American Cancer Society, Inc. All rights reserved, including the right to reproduce this publication or portions thereof in any form. For written permission, address American Cancer Society, 777 Third Avenue, New York, N.Y. 10017.

BASIC DATA

What is cancer?

Cancer is a large group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled or checked, it results in death. However, many cancers can be cured if detected and treated promptly.

How is cancer treated?

By surgery, X rays, radioactive substances, chemicals, hormones and immunotherapy.

Has there been any progress against cancer?

Yes. In the early 1900's few cancer patients had any hope of long-term survival. In the 1930's less than one in five was alive at least five years after treatment. In the 1940's it was one in four. Now the ratio is one in three. The gain from one in four to one in three currently represents about 65,000 people this year.

Who gets cancer?

Cancer strikes at any age. It kills more children 3 to 14 than any other disease. And cancer strikes more frequently with advancing age.

How many people alive today will ever get cancer?

Almost 56 million Americans now living will eventually have cancer; one in four, according to present rates. Over the years, cancer will strike in approximately two of three families. In the 70's, there were an estimated 3.5 million cancer deaths, over 6.5 million new cancer cases, and more than 10 million people under medical care for cancer.

How many people alive today have ever had cancer?

There are over 3 million Americans alive today who have a history of cancer, 2 million of them with diagnosis five or more years ago. While some of these 2 million people still have evidence of cancer, most of them can be considered cured. (Non-melanoma skin cancer and carcinoma in situ not included in above figure.)*

The decision as to when a patient may be considered cured is one that must be made by the physician after examining the individual patient. For most forms of cancer, five years without symptoms following treatment is the accepted time. However, some patients can be considered cured after one year, others after three years, whereas some have to be followed much longer than five years.

How many new cases will there be this year?

In 1980, about 785,000 people will be diagnosed as having cancer.*

How many people are being saved each year?

About 262,000 Americans, or about one-third of all people who get cancer this year, will be alive at least five years after treatment.

Could more people be saved?

Yes. About 131,000 people with cancer will probably die in 1980 who might have been saved by earlier treatment. Of every six people who get cancer, two will be saved and four will die. (This excludes non-melanoma skin cancer and carcinoma in situ of uterine cervix.) But of the four who will die, one might have been saved with earlier diagnosis and prompt treatment. The other three of the four will die of cancer which cannot yet be controlled. Only the results of research can save these patients. This means half of those who get cancer could and should be saved. Thus the immediate goal of cancer control is saving 393,000 lives, or half of those who will get cancer in 1980.

How many people will die?

This year about 405,000 will die of the disease – 1,110 people a day, about one every 78 seconds. Of every five deaths from all causes in the U.S., one is from cancer. In 1979, an estimated 399,000 Americans died of cancer. In 1978, it was 392,000. In 1977, it was 386,686. In 1976, 377,312 cancer deaths were reported by the U.S. National Center for Health Statistics.

What is the national death rate?

There was a steady rise in the age-adjusted** national death rate until 1950. Since then, the rate has increased only slightly. In 1930 the number of cancer deaths per 100,000 population was 112. In 1940 it was 120. By 1950 it had risen to 125, and in 1977 the number was 133. Except for cancer of the lung, age-adjusted cancer death rates in general are leveling off and in some cases declining.

*These estimates of the incidence of cancer are based upon data from the National Cancer Institute's SEER Program (1973-1976). Non-melanoma skin cancer and carcinoma in situ have not been included in the statistics. The incidence of non-melanoma skin cancer is estimated to be about 400,000.

**Age-adjusted – a method used to make valid statistical comparisons by assuming the same age distribution among different groups being compared.

Can cancer be prevented?

Some cancers, not all. Most lung cancers are caused by cigarette smoking, and most skin cancers by frequent overexposure to direct sunlight. These cancers can be prevented by avoiding their causes. Certain cancers caused by occupational/environmental factors – for example, bladder cancer among workers in the dye industry and lung cancer in asbestos workers who are also smokers – can be prevented by eliminating or reducing contact with carcinogenic agents.

SOURCES OF INCIDENCE AND MORTALITY STATISTICS

INCIDENCE

Cancer in most parts of the United States is not a reportable disease. Thus there is no way of knowing exactly how many new cases of cancer are diagnosed each year. In the past, estimates of cancer incidence were made by extrapolating from the experience of the few population-based cancer registries.

In 1969, the National Cancer Institute embarked on a three-year survey of cancer incidence in nine major areas of the United States. It was the most comprehensive incidence survey ever carried out. Then in 1973, NCI began a new and larger program, gathering data from 11 population-based registries. It is called SEER, standing for Surveillance, Epidemiology and End Results.

Beginning with the 1979 edition of *Facts & Figures*, SEER incidence information from the years 1973-1976 has been used. Each time a new data base is introduced to estimate incidence, there may be sharp changes in figures due to the more accurate data. They do not indicate a cancer epidemic or new cure.

Since comparisons of figures from different data bases are not valid, one can compare the 1978 *Facts & Figures* only with previous editions, and the 1979 *Facts & Figures* only with later editions.

MORTALITY

There has been no change in the data base for mortality statistics. The source is the National Center for Health Statistics, Department of Health, Education and Welfare. The 1980 figures are estimates based on the latest available information, which includes material through 1977.

HOW CANCER WORKS

Normally, the cells that make up the body reproduce themselves in an orderly manner so that worn-out tissues are replaced, injuries are repaired and growth of the body proceeds.

Occasionally, certain cells undergo an abnormal change and begin a process of uncontrolled growth and spread: one cell divides into two, those redivide into four, and so on. These cells may grow into masses of tissue called tumors – some benign and others malignant (cancer).

The danger of cancer is that it invades and destroys normal tissue. At the beginning, cancer cells usually remain at their original site, and the cancer is said to be *localized*. Later, some cancer cells may invade neighboring organs or tissue by direct extension of growth or they become detached and are carried through the lymph or blood systems to other parts of the body.

This spread may be *regional*–confined to one region of the body–when cells are trapped by lymph nodes. If left untreated, however, the cancer is likely to spread throughout the body. This is advanced cancer, and usually results in death.

Because with each stage a case of cancer becomes progressively more serious, *it is important to detect cancer as early as possible.* Aids to early detection include cancer's Seven Warning Signals (see p. 22) and the cancer risk factors below.

HIGH RISK FACTORS

The following table, based on epidemiological studies, lists major risk factors for common cancers:

Colon–Rectum:

- History of rectal polyps.
- Rectal polyps run in family.
- History of ulcerative colitis.
- Blood in stool.
- Over age 40.

Breast:

- Lump or nipple discharge.
- History of breast cancer.
- Close relatives with history of breast cancer.
- Over age 35; especially over 50.
- Never had children; first child after age 30.

Lung:
- Heavy cigarette smoker over age 50.
- Started cigarette smoking age 15 or before.
- Smoker working with or near asbestos.

Uterine–Endometrial:
- Unusual bleeding or discharge.
- Late menopause (after age 55).
- Diabetes, high blood pressure and overweight.
- Aged 50+.

Uterine–Cervical:
- Unusual bleeding or discharge.
- Frequent sex in early teens or with many partners.
- Low socio-economic background.
- Poor care during or following pregnancy.

Skin:
- Excessive exposure to sun.
- Fair complexion.
- Work with coal tar, pitch or creosote.

Oral:
- Heavy smoker and drinker.
- Poor oral hygiene.

Ovary:
- History of ovarian cancer among close relatives.
- Aged 50+.
- Never had children.

Prostate:
- Aged 60+.
- Difficulty in urinating.

Stomach:
- History of stomach cancer among close relatives.
- Diet heavy in smoked, pickled or salted foods.

CANCER RATES IN BLACKS AND WHITES *

A study of cancer rates over the last 25 years shows that the cancer incidence rate for blacks is higher than for whites, and that blacks also have a higher death rate than whites.

Male cancer incidence and mortality rates in each race increased while female rates decreased.

The overall cancer incidence rate for blacks went up 8 percent while for whites it dropped 3 percent. Cancer mortality for blacks increased 25 percent while for whites it rose only 5 percent.

Cancer sites where blacks had significantly higher increases in incidence and mortality rates included the lung, colon-rectum, prostate and esophagus. Esophageal cancer, long considered mainly a disease of males, declined in whites and rose rapidly in blacks of both sexes.

The incidence of invasive cancer of the uterine cervix dropped in both black and white women, although the incidence in blacks is still more than double that in whites. However, the rate for endometrial cancer – or cancer of the body of the uterus – for white women is double that of black women.

Survival for patients diagnosed between 1967 and 1973 was compared. More whites than blacks had cancer diagnosed in an early, localized stage when the chances of cure are best: 37 versus 28 percent for males, and 42 versus 31 percent for women.

Most of the differences in black and white cancer rates were attributed to environmental and social factors rather than to inherent biological characteristics. Because a higher percentage of blacks than whites are in the lower socio-economic group, risk of exposure to industrial carcinogens may be increased. Also, limited educational opportunities may prevent early detection as the less educated are less likely to know the importance of symptoms which could lead to an early diagnosis.

CANCER TRENDS

GENERAL DATA

The overall incidence of cancer decreased slightly from 1947 to 1970, but has increased between 5 and 10% since 1970. Incidence decreased substantially for cancers of the stomach, uterus, rectum and esophagus. In general, cancer between the ages of 20 and 40 is three times as common in women as men, but between the ages 60 and 80, men account for more cancer cases.

For men, there has been a much higher incidence of lung cancer, amounting to an increase of over 125% in 25 years; slight increases occurred for cancers of the colon, prostate and bladder. Stomach cancer decreased.

For women, decrease in incidence has been noted

*Figures for cancer incidence are from the National Cancer Institute National Surveys, 1947 and 1969; those for cancer mortality from the National Center for Health Statistics, 1952-1977.

for cancers of the uterine cervix and stomach. Lung cancer has steadily increased.

Overall since 1949, more men than women have been dying of cancer each year; in 1980, about 54% of the deaths will be male, 46% female. Cancer is the leading cause of death among women aged 30-54.

For men, the cancer death rate per 100,000 population has increased by more than 60% from 1950 to 1977 for blacks, and by more than 20% for whites. The increased death rate is mainly the result of lung cancer, which rose from 18 deaths per 100,000 in 1950 to 55 deaths per 100,000 in 1977.

For women, from 1950 to 1977 the death rate has declined by 7% for blacks and 9% for whites. This is due mainly to a sharp reduction in deaths caused by cancer of the uterine cervix. This drop is attributed to increased use of Pap tests and regular checkups. There was also a decline in stomach cancer. However, the lung cancer rate has more than tripled from 4 per 100,000 in 1950 to 15 in 1977.

For children, cancer is responsible for more deaths in the 3- to 14-year-old group than any other disease. In 1980, cancer will account for the deaths of about 2,300 children, about half of them from acute lymphocytic leukemia, a cancer of blood-forming tissues.

Overall five-year survival rates have increased for some cancers, and leveled off for most cancers in the past 25 years.

INDIVIDUAL SITES

Breast: Leading site of cancer incidence and death among women. Leading cause of all deaths among women 40-44 years old. No great difference in mortality rate in past 50 years; five-year survival rate, all stages, increased from 53% for cases diagnosed in the 1940's to 65% for cases diagnosed in the 1970's. The percentage diagnosed in localized stage has gradually increased from 38% to 47% during this period. Five-year survival rate for localized breast cancers was 85% for cases diagnosed in the 1970's as compared to 78% for cases diagnosed in the 1940's. Survival rate when regional lymph nodes are involved improved sharply in the 1950's and slowly continued to improve. Since 1950, besides surgery, therapy has included some radiation, chemotherapy and/or hormones.

Colon-Rectum: Second only to lung cancer for greatest number of new cases estimated for 1980 (excluding common skin cancers). Only slight changes in recent years in incidence or death rates.

Larynx: Strikes few women; survival rate for men has continued to improve through the 1970's.

Leukemia: Marked change in survival rate of chronic forms from 14% five-year survival for men in cases diagnosed in the 1940's to 30% in 1970's; for women an increase from 17% to 34% during the same time period. Acute lymphocytic leukemia continues to show dramatic improvement at certain centers. The five-year survival rate for patients with optimum treatment is now between 50 and 75%.

Lung: Number one site of cancer deaths among men. Death rate for men has increased more than 25 times in 45 years. Death rate is going up steadily for women. Incidence has more than doubled in both men and women, black and white. It has the highest estimated number of new cases for any cancer for 1980 (excluding common skin cancers). Five-year survival rate for all stages is low: 8% for men, 12% for women, very slight increase since 1940's.

Pancreas: Highly fatal; five-year survival rate is still only 1%. Incidence increasing, more than 20% for men and women, no known reason.

Prostate: Has increased in incidence by more than 20% in past 25 years. Five-year survival rate has continued to show steady improvement from 1940's up to the present.

Stomach: Steady decrease in incidence, more than 50% in 25 years, both men and women; about one-third the death rate of 30 years ago. No known reason.

Uterine: Steady decrease in deaths from this cancer, now less than one-third the rate of 40 years ago. Survival rate shows continued improvement for endometrial form of uterine cancer from 1940's up to the present while survival rate for cervical cancer increased from 1940's to 1950's and has since leveled off. Better education programs, better hygiene and wide use of Pap test contributed to the improved survival rates.

Other sites: **Hodgkin's disease** – improved five-year survival rates for both men and women from 25% in 1940's to 54% in 1970's; **Bladder** – slight decline in death rate for women in 25 years, with more than 25% decline in incidence; an increase of over 20% for incidence in men. Five-year survival rates show improvement for men from 41% to 62% and from 44% to 62% for women. **Ovary** – death rates increased slightly in last 25 years. Five-year survival rate shows slight gain from 25% in 1940's to 34% in 1970's. **Kidney, Brain, Thyroid** – survival rates have continued to increase from 1940's to 1970's. **Oral** – showed improvement in survival rates from 1940's to 1950's but rates have leveled since.

TRENDS IN DIAGNOSIS AND TREATMENT

Cancer management today is becoming increasingly individualized, both with respect to diagnostic procedures and treatment. Early detection is followed by a precise staging of the disease, and the use of more than one kind of therapy, often in combination.

Some tumors, formerly with very poor prognoses, now are being cured in many cases. These include acute lymphocytic leukemia and osteogenic (bone) sarcoma in children, Burkitt's lymphoma, choriocarcinoma, embryonal rhabdomyosarcoma, Ewing's sarcoma, histiocytic lymphoma, Hodgkin's disease, breast cancer, retinoblastoma, testicular carcinoma, testicular sarcoma, and Wilms' tumor. Other cancers are being more effectively controlled than in the past.

An outstanding example of progress is the improvement in the management of Hodgkin's disease (a cancer of lymph glands in young adults). Better disease staging in certain cases, more precise application of new and improved X-ray therapy and/or a combination of four cancer drugs has resulted in remarkably improved survival. In less than 10 years, the five-year survival rate for early cases rose from 68 to 90 percent, and from 10 to 70 percent for advanced cancer.

The following developments indicate the directions of current and future research in cancer diagnosis and treatment:

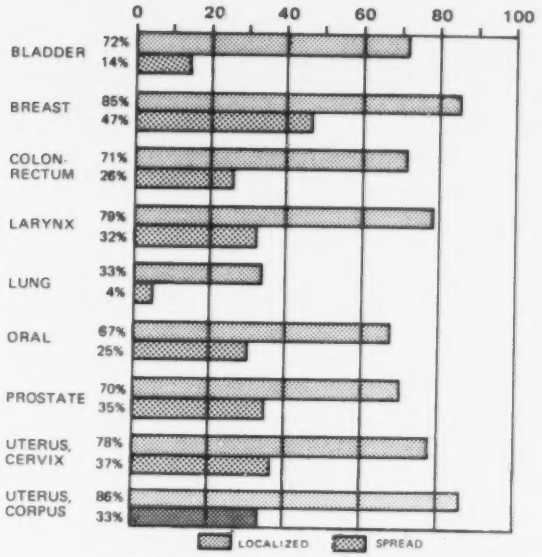
- Interferon, a natural body substance known to combat viruses, has shown some promise in preliminary research on advanced human cancers of the bone, breast and lymphatic system.
- Retinoids, synthetic "cousins" of vitamin A, have halted bladder and breast cancers in mice and rats, and may also work against cancers of the lung, esophagus and pancreas in humans.
- Fifty drugs have been found effective against certain cancers, and others that are still being tested appear to hold promise.
- Surgery now is more precise than in the past because of improved diagnostic equipment and laser instruments, and rehabilitation is improved through advances in plastic surgery.
- Experiments have been conducted with a simple, inexpensive blood test, based on unique chemical substances, to determine whether an individual has cancer and where it is. Good preliminary results have been obtained in selected cases by using this procedure to detect cancers of the breast, pancreas and some other sites.
- Intense drug therapy before surgery has successfully treated children with rare bone tumors, and is being adapted to help fight some of the more common cancers in adults.
- A series of chemical injections near the spine can act as a nerve block, relieving certain cancer patients of debilitating pain.
- Common denominator approaches to cancer prevention may include the study and manipulation of "oncogenes" – cancer-causing genes which normally are dormant but which may be activated by radiation, chemicals and viruses. Researchers have learned how to manipulate oncogenes in some animals, and are determining whether the same thing can be done in humans.
- A new technique makes high and potentially lethal doses of the cancer drug, methotrexate, safe and effective for the treatment of some cancers.
- Certain drugs and hyperthermia (the superheating of body tissues) are being used to increase the effectiveness of radiotherapy.
- Some patients with bone cancer now are treated successfully by removing and replacing a section of bone rather than by amputating the leg or arm. Drugs and radiotherapy also are being used effectively following surgery, resulting in dramatic improvement in survival.
- High-frequency sound waves (ultrasound) instead of X rays are being used to locate tumors deep in the body. For patients undergoing radiation therapy, ultrasound may enable the therapist to pinpoint the tumor more precisely in order to provide proper radiation dosage and location of treatment.
- Immunotherapy holds hope of harnessing the body's own disease-fighting systems to combat cancer with essentially no overt toxicity. In laboratory animals, substances such as BCG can stimulate immune mechanisms. These substances now are being used in humans alone or with other forms of treatment.
- Because genetic and environmental factors have been found for virtually every major cancer, it is becoming possible to "profile" individuals according to their cancer risk factors, and therefore select the most appropriate diagnostic tests.
- The transfusion of blood components is becoming increasingly available for cancer therapy. Platelets are used to prevent hemorrhaging and white cells to treat infection.
- Computerized Tomography uses X rays to examine the brain and other parts of the body. Cross-section pictures are constructed which show a tumor's shape and location more accurately than is possible with conventional X-ray techniques.

ESTIMATED NEW CASES AND DEATHS FOR MAJOR SITES OF CANCER–1980*

Site	No. of Cases	Deaths
Lung	117,000	101,000
Colon-Rectum	114,000	53,000
Breast	109,000	36,000
Prostate	66,000	22,000
Uterus	54,000**	11,000
Urinary	52,000	18,000
Oral	26,000	9,000
Pancreas	24,000	21,000
Leukemia	22,000	16,000
Ovary	17,000	11,000
Skin	14,000***	6,000

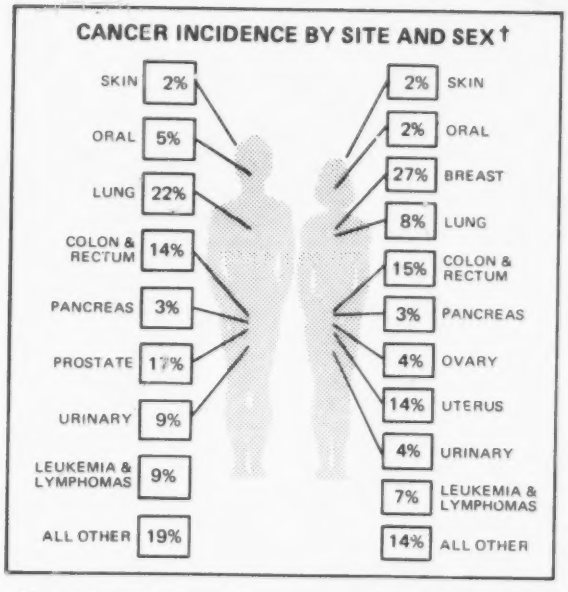
*Figures rounded to nearest 1,000.
**If carcinoma in situ is included, cases total over 99,000.
***Estimate new cases of non-melanoma about 400,000.
INCIDENCE ESTIMATES ARE BASED ON RATES FROM N.C.I. SEER PROGRAM 1973-76.

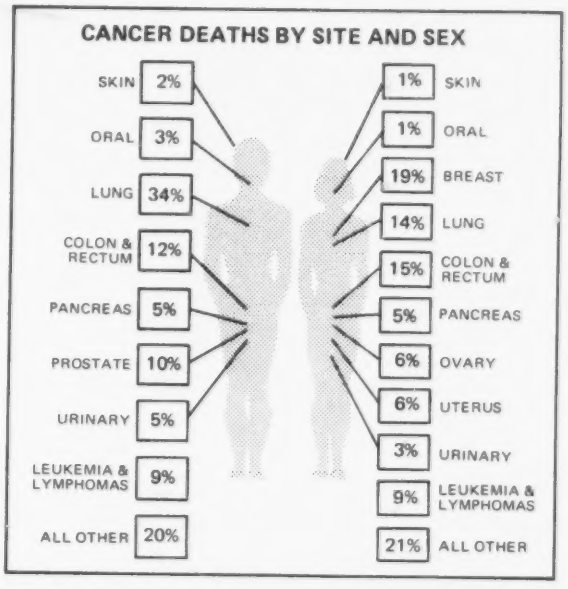
FIVE YEAR CANCER SURVIVAL RATES* FOR SELECTED SITES



* ADJUSTED FOR NORMAL LIFE EXPECTANCY
SOURCE: END RESULTS GROUP, NATIONAL CANCER INSTITUTE

1980 ESTIMATES





†Excluding non-melanoma skin cancer and carcinoma in situ.

Estimated New Cancer Cases and Deaths by Sex for All Sites – 1980*

SITE	ESTIMATED NEW CASES			ESTIMATED DEATHS		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
All Sites	785,000*	387,000*	398,000*	405,000	219,500	185,500
Buccal Cavity & Pharynx (Oral)	25,500	17,900	7,600	8,800	6,100	2,700
Lip	4,400	4,000	400	175	150	25
Tongue	4,800	3,200	1,600	2,000	1,400	600
Salivary Gland				650	400	250
Floor of Mouth	9,300	5,600	3,700	525	400	125
Other & Unspecified Mouth				1,450	950	500
Pharynx	7,000	5,100	1,900	4,000	2,800	1,200
Digestive Organs	186,300	95,800	90,500	106,850	55,900	50,950
Esophagus	8,800	6,200	2,600	7,600	5,500	2,100
Stomach	23,000	14,000	9,000	14,000	8,400	5,600
Small Intestine	2,200	1,200	1,000	700	350	350
Large Intestine (Colon-Rectum)	79,000	36,000	43,000	44,000	20,500	23,500
Rectum (Colon-Rectum)	35,000	19,000	16,000	8,800	4,800	4,000
Liver & Biliary Passages	11,600	5,600	6,000	9,300	4,500	4,800
Pancreas	24,000	12,500	11,500	20,900	11,100	9,800
Other & Unspecified Digestive	2,700	1,300	1,400	1,550	750	800
Respiratory System	130,700	96,000	34,700	106,200	78,600	27,600
Larynx	10,700	9,000	1,700	3,500	2,900	600
Lung	117,000	85,000	32,000	101,300	74,800	26,500
Other & Unspecified Respiratory	3,000	2,000	1,000	1,400	900	500
Bone, Tissue and Skin	20,500	10,500	10,000	9,550	5,400	4,150
Bone	1,900	1,100	800	1,750	1,000	750
Connective Tissue	4,500	2,500	2,000	1,600	800	800
Skin	14,100**	6,900**	7,200**	6,200†	3,600	2,600
Breast	108,900	900	108,000	35,800	300	35,500
Genital Organs	146,500	71,000	75,500	45,300	22,500	22,800
Cervix, Invasive (Uterus)	16,000***	–	16,000***	7,400	–	7,400
Corpus, Endometrium (Uterus)	38,000	–	38,000	3,200	–	3,200
Ovary	17,000	–	17,000	11,200	–	11,200
Prostate	66,000	66,000	–	21,500	21,500	–
Other & Unspecified Genital, Male	5,000	5,000	–	1,000	1,000	–
Other & Unspecified Genital, Female	4,500	–	4,500	1,000	–	1,000
Urinary Organs	52,400	36,500	15,900	18,200	11,800	6,400
Bladder	35,500	26,000	9,500	10,300	7,000	3,300
Kidney & Other Urinary	16,900	10,500	6,400	7,900	4,800	3,100
Eye	1,800	900	900	400	200	200
Brain & Central Nervous System	11,900	6,600	5,300	9,800	5,400	4,400
Endocrine Glands	10,000	3,100	6,900	1,500	600	900
Thyroid	9,100	2,600	6,500	1,050	350	700
Other Endocrine	900	500	400	450	250	200
Leukemia	22,200	12,500	9,700	15,700	8,800	6,900
Other Blood & Lymph Tissues	39,200	20,800	18,400	20,700	10,800	9,900
Hodgkin's Disease	7,100	4,100	3,000	1,900	1,100	800
Multiple Myeloma	9,100	4,700	4,400	6,400	3,300	3,100
Other Lymphomas	23,000	12,000	11,000	12,400	6,400	6,000
All Other & Unspecified Sites	29,100	14,500	14,600	26,200	13,100	13,100

Note: The estimates of new cancer cases are offered as a rough guide and should not be regarded as definitive. Especially note that year-to-year changes may only represent improvements in the basic data. ACS six major sites in boldface.

*Carcinoma in situ and non-melanoma skin cancers not included in totals. Carcinoma in situ of the uterine cervix accounts for over 45,000 new cases annually. Non-melanoma skin cancer accounts for about 400,000 new cases annually.

**Melanoma only ***Invasive cancer only. †Melanoma 4,600; other skin 1,600.

INCIDENCE ESTIMATES ARE BASED ON RATES FROM N.C.I. SEER PROGRAM 1973-1976.

NEW CANCER CASES – 1980

Estimated New Cancer Cases for All Sites Plus Major Sites, by State – 1980

State	All Sites *	Major Sites								
	Number of Cases	Female Breast	Colon-Rectum	Lung	Oral	Uterus (Invasive)	Prostate	Stomach	Pancreas	Leukemia
Alabama	13,000	1,500	1,500	2,100	350	1,000	1,100	300	425	350
Alaska	600	50	50	100	15	30	20	15	10	20
Arizona	7,900	1,000	1,000	1,200	225	550	650	150	250	200
Arkansas	8,400	950	1,000	1,400	250	600	800	200	300	300
California	76,000	11,200	9,700	11,500	2,500	4,800	6,000	2,300	2,400	2,100
Colorado	6,800	1,000	900	800	175	400	550	150	250	200
Connecticut	12,000	2,000	1,900	1,700	450	750	1,000	400	400	350
Delaware	2,200	250	300	350	70	150	150	50	50	40
Dist. of Columbia	3,200	450	400	450	200	250	250	90	100	60
Florida	44,000	5,500	6,300	7,100	1,500	2,800	4,100	1,000	1,300	1,000
Georgia	15,000	1,700	1,700	2,500	550	1,200	1,400	400	450	450
Hawaii	2,200	200	250	325	100	125	100	150	60	70
Idaho	2,500	350	300	350	75	150	250	70	80	100
Illinois	41,000	5,900	6,400	6,200	1,400	2,700	3,200	1,400	1,200	1,200
Indiana	18,000	2,600	2,700	2,800	500	1,700	1,400	400	550	500
Iowa	11,000	1,500	2,000	1,500	300	750	1,200	300	350	400
Kansas	8,400	1,200	1,200	1,200	250	650	800	150	300	300
Kentucky	13,000	1,400	1,800	2,200	425	950	1,100	250	375	400
Louisiana	14,000	1,600	1,600	2,300	500	850	1,200	400	400	350
Maine	4,300	600	750	600	150	350	400	150	150	100
Maryland	15,000	2,200	2,100	2,300	575	1,100	1,300	350	400	350
Massachusetts	23,000	3,400	3,800	3,100	875	1,500	1,800	850	650	600
Michigan	30,000	4,300	4,300	4,600	950	2,200	2,500	850	850	800
Minnesota	13,000	1,800	2,100	1,600	375	800	1,400	500	450	450
Mississippi	8,000	800	900	1,300	225	600	1,000	250	300	300
Missouri	19,000	2,300	2,900	2,800	525	1,400	1,700	450	550	550
Montana	2,400	300	350	350	80	150	250	80	80	80
Nebraska	5,500	750	900	700	150	350	500	150	225	225
Nevada	2,200	250	250	400	60	150	100	15	60	40
New Hampshire	3,300	400	550	450	100	225	250	70	90	100
New Jersey	30,000	4,600	4,900	4,300	1,000	2,100	2,300	1,100	900	750
New Mexico	3,100	300	350	400	60	250	250	80	90	70
New York	71,000	11,100	12,000	9,600	2,500	4,800	5,200	2,800	2,400	2,000
North Carolina	18,000	2,400	2,300	2,600	575	1,400	1,800	350	500	500
North Dakota	2,000	300	300	250	50	100	300	100	80	70
Ohio	39,000	5,600	6,000	6,100	1,200	2,900	3,100	1,200	1,100	1,100
Oklahoma	11,000	1,200	1,400	1,800	325	650	900	250	325	300
Oregon	8,400	1,200	1,000	1,400	250	550	750	200	300	300
Pennsylvania	49,000	6,900	8,700	6,600	1,500	3,200	3,700	1,600	1,300	1,300
Rhode Island	4,300	650	800	550	200	300	350	150	100	80
South Carolina	8,500	1,100	1,000	1,400	300	750	800	150	300	225
South Dakota	2,400	300	400	300	50	150	300	80	90	100
Tennessee	16,000	1,900	2,000	2,600	525	1,100	1,300	300	475	450
Texas	40,000	4,900	4,800	6,400	1,300	2,700	3,300	1,100	1,200	1,200
Utah	2,600	400	350	250	60	200	300	80	80	80
Vermont	1,700	200	300	275	60	150	200	50	50	60
Virginia	16,000	2,300	2,100	2,600	525	1,100	1,300	350	475	400
Washington	13,000	1,900	1,800	2,000	400	750	1,200	350	400	400
West Virginia	7,000	800	900	1,100	200	600	600	200	250	150
Wisconsin	16,000	2,400	2,600	2,000	500	950	1,500	600	500	450
Wyoming	1,100	100	100	200	20	70	80	20	30	30
United States	785,000	108,000	114,000	117,000	25,500	54,000	66,000	23,000	24,000	22,000
Puerto Rico	6,000	350	275	300	425	700	300	500	100	125

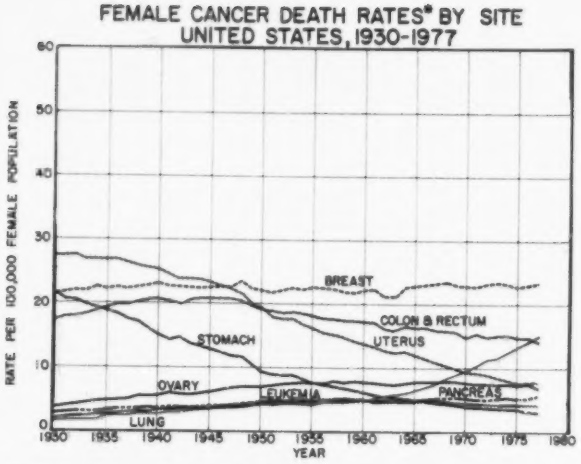
*Does not include carcinoma in situ or non-melanoma skin cancer.

These estimates are offered as a rough guide and should not be regarded as definitive. They are calculated according to the distribution of estimated 1980 cancer deaths by state. Especially note that year-to-year changes may only represent improvements in the basic data.

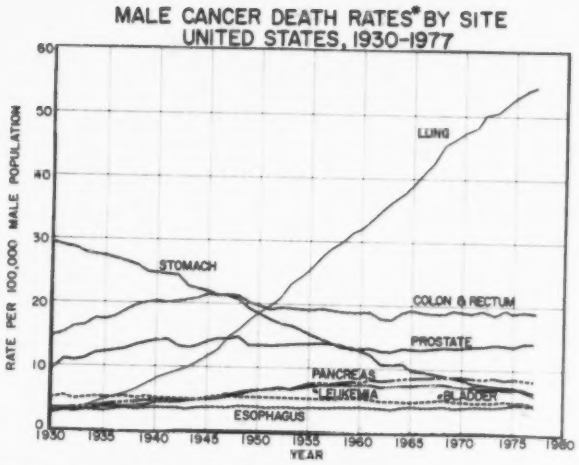
CANCER DEATHS – 1980

Estimated Cancer Deaths for All Sites plus Major Sites, by State – 1980

State	All Sites		Major Sites								
	Number of Deaths	Death Rate per 100,000 Population	Female Breast	Colon-Rectum	Lung	Oral	Uterus	Prostate	Stomach	Pancreas	Leukemia
Alabama	6,500	172	500	650	1,800	125	250	375	200	375	250
Alaska	300	73	15	30	75	5	10	10	10	10	10
Arizona	3,900	152	300	400	1,000	100	50	225	125	200	150
Arkansas	4,300	193	300	475	1,200	100	100	275	150	250	200
California	39,500	176	3,600	4,800	10,000	850	1,000	2,000	1,500	2,100	1,500
Colorado	3,400	120	325	450	750	70	70	225	125	200	175
Connecticut	6,300	201	600	900	1,500	175	125	325	250	350	250
Delaware	1,100	183	70	150	300	25	20	50	30	50	30
Dist. of Columbia	1,600	234	175	200	375	75	60	100	60	80	40
Florida	23,000	239	1,700	2,900	6,200	450	400	1,400	800	1,100	750
Georgia	7,800	147	650	750	2,200	200	275	450	225	400	300
Hawaii	1,200	128	60	100	275	30	20	40	90	60	50
Idaho	1,300	146	90	150	300	25	25	90	40	70	70
Illinois	21,400	190	2,000	3,000	5,300	500	700	1,200	750	1,100	900
Indiana	9,400	175	900	1,300	2,400	200	325	500	250	500	400
Iowa	5,600	194	500	900	1,300	100	125	350	150	300	275
Kansas	4,200	181	425	550	1,100	100	125	300	125	250	200
Kentucky	6,500	183	475	850	1,900	175	200	375	150	325	275
Louisiana	7,000	178	500	700	2,000	175	200	400	250	350	250
Maine	2,200	196	200	325	550	50	60	125	90	100	80
Maryland	7,800	179	700	950	2,000	200	200	400	225	350	250
Massachusetts	11,800	197	1,200	1,800	2,600	325	300	600	500	600	425
Michigan	15,700	169	1,400	2,000	4,000	325	425	850	475	750	600
Minnesota	6,700	166	650	950	1,400	150	125	475	250	400	325
Mississippi	4,100	169	300	425	1,100	90	125	325	125	250	200
Missouri	9,600	198	800	1,300	2,500	200	275	550	275	475	400
Montana	1,300	164	100	175	300	30	30	75	50	80	60
Nebraska	2,800	175	275	450	650	60	70	200	125	175	150
Nevada	1,100	166	60	100	325	25	20	30	10	60	30
New Hampshire	1,700	196	150	275	400	40	50	90	40	80	70
New Jersey	15,400	206	1,500	2,400	3,600	350	400	700	650	800	500
New Mexico	1,600	128	125	175	350	25	30	70	50	70	50
New York	37,000	207	4,000	5,800	8,400	850	1,000	1,700	1,600	2,100	1,400
North Carolina	9,200	159	700	950	2,200	225	300	500	250	425	375
North Dakota	1,100	168	90	150	200	20	25	80	60	80	50
Ohio	20,300	189	1,900	2,900	5,200	425	650	1,000	650	950	800
Oklahoma	5,500	193	400	600	1,500	100	125	325	150	275	225
Oregon	4,300	176	350	500	1,200	100	100	275	125	250	200
Pennsylvania	24,900	218	2,400	3,700	5,700	500	750	1,300	850	1,200	950
Rhode Island	2,300	239	225	375	500	60	50	125	100	90	60
South Carolina	4,500	149	350	425	1,200	100	150	275	125	250	175
South Dakota	1,300	188	80	200	250	20	40	100	50	90	80
Tennessee	8,000	183	600	850	2,200	200	225	425	225	400	300
Texas	20,500	155	1,600	2,200	5,400	425	600	1,000	700	1,100	1,000
Utah	1,400	106	125	150	225	20	30	90	50	50	60
Vermont	900	183	70	150	250	20	30	60	30	50	40
Virginia	8,400	157	700	950	2,200	175	250	425	250	425	300
Washington	6,700	183	550	800	1,800	150	150	400	200	350	275
West Virginia	3,600	195	275	450	950	75	125	200	100	200	125
Wisconsin	8,400	177	900	1,200	1,700	175	200	500	325	425	350
Wyoming	600	147	40	70	175	10	10	40	15	30	20
United States	405,000	183	36,000	53,000	101,000	9,000	11,000	22,000	14,000	21,000	16,000
Puerto Rico	3,000	102	125	175	250	175	200	175	425	100	125



*Rate for the female population standardized for age on the 1940 U.S. population. Sources of Data: National Vital Statistics Division and Bureau of the Census, United States.



*Rate for the male population standardized for age on the 1940 U.S. population. Sources of Data: National Vital Statistics Division and Bureau of the Census, United States.

25-Year Trends in Age-Adjusted Cancer Death Rates Per 100,000 Population 1950-52 to 1975-77

All Sites All Sites	131.1 118.9	162.3 107.9	+ 23.8 – 9.3	Steady increase mainly due to lung cancer. Slight decrease.
Bladder Bladder	5.1 2.2	4.9 1.4	* – 35.1	Slight fluctuations; overall no change. Some fluctuations; noticeable decrease.
Breast Breast	0.3 22.0	0.3 23.2	* + 0.6	Constant rate. Slight fluctuations; overall no change.
Colon & Rectum Colon & Rectum	19.4 18.9	19.0 14.9	– 2.1 – 19.5	Slight fluctuations; overall no change. Slight fluctuations; noticeable decrease.
Esophagus Esophagus	3.6 .9	4.3 1.2	+ 19.0 *	Some fluctuations; slight increase. Slight fluctuations; overall no change in females.
Kidney Kidney	2.8 1.6	3.7 1.8	+ 32.1 *	Steady slight increase. Slight fluctuations; overall no change.
Leukemia Leukemia	6.5 4.6	6.9 4.1	+ 6.2 – 8.7	Early increase, later leveling off. Slight early increase, later leveling off and decrease.
Lung Lung	18.3 3.9	56.7 14.0	+210.6 +263.3	Steady increase in both sexes due to cigarette smoking.
Oral Oral	4.7 1.2	4.8 1.6	* *	Slight fluctuations; overall no change in both sexes.
Ovary	7.0	7.3	+ 4.3	Steady increase, later leveling off.
Pancreas Pancreas	6.5 4.2	8.4 5.2	+ 29.2 + 23.8	Steady increase in both sexes, then leveling off. Reasons unknown.
Prostate	13.3	13.9	+ 5.3	Fluctuations all through period; overall no change.
Skin Skin	2.3 1.5	2.8 1.6	* *	Slight fluctuations; overall no change in both sexes.
Stomach Stomach	17.6 9.3	6.8 3.2	– 61.2 – 65.6	Steady decrease in both sexes; reasons unknown.
Uterus	18.2	7.4	– 59.3	Steady decrease.

*Percent changes not listed because they are not meaningful.

BEST AVAILABLE COPY

Mortality for the Five Leading Cancer Sites in Major Age Groups by Sex, United States -- 1977

UNDER 15		15-34		35-54		55-74		75+	
MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Leukemia	Leukemia	Leukemia	Breast	Lung	Breast	Lung	Breast	Lung	Colon & Rectum
633	422	755	623	10,110	8,348	44,112	17,341	14,060	11,953
Brain and Nervous System	Brain and Nervous System	Brain and Nervous System	Leukemia	Colon & Rectum	Lung	Colon & Rectum	Lung	Prostate	Breast
414	302	474	553	2,434	4,528	13,504	13,045	11,645	8,166
Bone	Bone	Testis	Brain and Nervous System	Pancreas	Colon & Rectum	Prostate	Colon & Rectum	Colon & Rectum	Lung
58	47	423	316	1,307	2,283	8,851	12,190	8,811	4,341
Connective Tissue	Connective Tissue	Hodgkin's Disease	Uterus	Brain and Nervous System	Uterus	Pancreas	Ovary	Pancreas	Pancreas
50	46	352	303	1,200	2,093	6,378	6,000	3,205	3,778
Lympho-and Reticulosarcoma	Kidney	Skin	Hodgkin's Disease	Leukemia	Ovary	Stomach	Uterus	Bladder	Uterus
49	35	254	235	1,046	2,063	4,652	5,573	3,121	2,970

Source: Vital Statistics of the United States, 1977

Mortality for Leading Causes of Death: United States, 1977

Rank	Cause of Death	Number of Deaths	Death Rate Per 100,000 Population	Percent of Total Deaths
	All Causes	1,899,597	878.1	100.0
1	Diseases of Heart	718,850	332.3	37.8
2	Cancer	386,686	178.7	20.4
3	Stroke	181,934	84.1	9.6
4	Accidents	103,202	47.7	5.4
5	Influenza & Pneumonia	51,193	23.7	2.7
6	Diabetes Mellitus	32,989	15.2	1.7
7	Cirrhosis of Liver	30,848	14.3	1.6
8	Arteriosclerosis	28,754	13.3	1.5
9	Suicide	28,681	13.3	1.5
10	Diseases of Infancy	23,401	10.8	1.2
11	Homicide	19,968	9.2	1.1
12	Emphysema	16,376	7.6	0.9
13	Congenital Anomalies	12,983	6.0	0.7
14	Nephritis & Nephrosis	8,519	3.9	0.5
15	Septicemia & Pyemia	7,112	3.3	0.4
	Other & Ill-defined	248,101	114.7	13.1

Source: Vital Statistics of the United States, 1977

How to Estimate Cancer Statistics Locally

Community Population	Estimated No. Who are Alive, Cured of Cancer	Estimated No. Cancer Cases Under Medical Care in 1980	Estimated No. Who Will Die of Cancer in 1980	Estimated No. of New Cases in 1980	Estimated No. Who Will be Saved from Cancer in 1980	Estimated No. Who Will Eventually Develop Cancer	Estimated No. Who Will Die of Cancer if Present Rates Continue
1,000	7	4	1	3	1	250	150
2,000	15	9	3	6	2	500	300
3,000	22	13	4	8	3	750	450
4,000	30	18	6	11	4	1,000	600
5,000	37	21	7	14	5	1,250	750
10,000	74	43	15	28	9	2,500	1,500
25,000	185	107	37	70	23	6,250	3,750
50,000	370	215	75	140	47	12,500	7,500
100,000	740	430	150	280	93	25,000	15,000
200,000	1,480	860	300	560	186	50,000	30,000
500,000	3,700	2,150	750	1,400	465	125,000	75,000

NOTE: The figures can only be the roughest approximation of actual data for your community. It is suggested that every effort be made to obtain actual data from a Registry source.

CANCER AROUND THE WORLD, 1974-1975

Age-Adjusted Death Rates Per 100,000 Population for Selected Cancer Sites for 46 Countries

Country	All Sites		Oral		Colon & Rectum		Lung		Breast	Uterus	Skin		Stomach		Prostate	Leukemia	
	Male	Female	Male	Female	Male	Female	Male	Female	Female	Female	Male	Female	Male	Female	Male	Male	Female
United States	159.4(23)	106.1(19)	4.7(12)	1.6(8)	19.1(19)	15.0(16)	51.2(10)	12.2(6)	22.1(13)	7.7(39)	2.6(7)	1.5(11)	7.2(42)	3.7(44)	14.5(17)	6.9(7)	4.3(17)
Australia	163.2(20)	102.0(24)	4.3(14)	1.2(15)	21.4(12)	17.5(10)	46.7(15)	7.0(14)	20.0(15)	7.2(42)	5.3(1)	2.8(2)	13.1(39)	6.5(40)	15.5(12)	6.4(15)	4.5(11)
Austria	189.4(10)	123.4(5)	4.0(15)	0.7(34)	23.6(6)	17.4(11)	51.8(9)	7.0(15)	19.1(20)	14.2(8)	2.1(13)	1.4(16)	30.7(9)	15.9(9)	14.7(15)	6.3(16)	4.4(13)
Belgium	200.4(3)	115.2(14)	3.1(23)	0.7(35)	21.2(13)	17.1(13)	67.5(4)	5.6(22)	23.3(11)	8.5(30)	1.4(29)	1.0(31)	20.1(21)	10.4(23)	15.8(10)	6.2(21)	3.9(24)
Bulgaria	124.7(37)	79.7(39)	1.9(40)	0.6(41)	10.5(34)	8.4(34)	36.1(25)	6.6(17)	14.3(26)	8.4(31)	1.9(17)	1.3(21)	29.2(11)	16.7(7)	6.2(39)	6.3(17)	4.7(6)
Canada	157.6(24)	109.3(18)	3.9(17)	1.2(16)	20.5(16)	18.5(6)	46.2(17)	8.8(11)	23.6(10)	7.6(40)	1.8(21)	1.4(17)	12.8(40)	5.9(41)	14.7(16)	7.0(5)	4.2(19)
Costa Rica	127.6(33)	106.0(21)	2.8(26)	0.8(32)	4.9(41)	5.7(40)	10.3(41)	6.0(20)	8.2(39)	14.5(7)	0.7(40)	1.2(27)	47.9(3)	23.6(3)	8.8(32)	7.8(1)	4.7(7)
Chile	147.0(25)	121.4(9)	2.8(27)	0.8(30)	23.8(4)	28.4(1)	17.5(34)	4.7(31)	10.9(33)	20.1(3)	1.1(35)	0.8(34)	50.2(2)	25.9(2)	11.6(26)	3.9(36)	3.3(30)
Czechoslovakia	213.2(1)	118.0(13)	3.7(19)	0.8(31)	22.7(8)	14.0(18)	66.4(5)	5.5(25)	16.8(24)	11.0(15)	2.4(9)	1.6(10)	33.3(8)	16.6(8)	11.2(28)	7.3(3)	4.7(8)
Denmark	165.5(18)	127.2(4)	1.9(39)	0.9(28)	22.5(9)	17.9(8)	46.3(16)	10.3(10)	25.5(5)	12.7(10)	2.7(5)	2.1(6)	14.8(36)	8.1(34)	13.4(21)	6.6(10)	4.4(14)
Dominican Rep.	36.7(44)	37.1(45)	1.7(41)	1.0(25)	2.2(44)	3.6(42)	3.7(45)	1.4(45)	3.2(44)	7.8(38)	0.4(43)	0.3(43)	3.8(45)	1.8(45)	5.7(40)	1.7(44)	1.2(45)
England & Wales	189.7(9)	123.2(6)	2.7(29)	1.3(13)	21.6(11)	17.3(12)	73.7(2)	14.8(3)	27.7(1)	8.8(27)	1.7(22)	1.5(12)	19.7(23)	9.0(30)	12.0(24)	5.8(22)	3.9(25)
Finland	182.0(12)	98.3(30)	2.3(34)	1.0(23)	10.8(31)	9.9(30)	64.4(6)	4.2(34)	16.0(25)	6.3(43)	2.3(12)	1.4(18)	24.7(18)	12.8(19)	13.9(18)	5.7(24)	4.9(4)
France	194.5(5)	98.7(29)	14.5(3)	1.1(20)	20.7(15)	13.8(20)	33.6(26)	3.6(39)	18.5(21)	9.6(23)	1.7(25)	1.3(22)	15.7(33)	7.2(36)	15.4(13)	7.0(6)	4.5(12)
Germany, F.R.	182.4(11)	121.3(10)	2.6(32)	0.7(36)	23.5(7)	18.1(7)	47.5(13)	5.1(29)	20.4(14)	10.5(19)	1.8(20)	1.3(23)	27.1(15)	14.1(11)	16.0(9)	6.3(19)	4.3(18)
Greece	135.0(31)	77.3(40)	1.4(44)	0.7(37)	6.4(38)	6.2(37)	39.4(24)	6.3(18)	11.2(32)	5.8(45)	1.1(36)	0.8(35)	14.0(37)	7.9(35)	6.8(37)	7.1(4)	4.4(15)
Hong Kong	169.4(16)	96.8(31)	19.3(1)	7.4(1)	12.7(28)	8.9(31)	43.4(20)	20.9(1)	9.0(37)	8.9(26)	0.8(39)	0.5(40)	15.7(34)	7.8(37)	1.7(42)	3.8(37)	2.9(39)
Honduras	29.2(46)	42.0(44)	0.4(46)	0.1(46)	0.1(46)	0.1(46)	1.1(46)	1.1(46)	0.2(46)	9.6(22)	0.0(45)	0.0(46)	6.0(44)	5.0(42)	0.1(46)	1.9(43)	1.3(44)
Hungary	195.2(4)	129.0(2)	5.2(9)	1.0(24)	20.9(14)	16.2(14)	48.2(12)	8.5(12)	18.6(19)	16.4(6)	2.7(6)	2.1(4)	36.4(4)	17.5(4)	16.2(8)	6.5(13)	4.7(9)
Iceland	135.8(30)	115.4(15)	3.1(24)	1.4(10)	10.5(33)	14.9(17)	17.2(35)	10.7(9)	19.9(18)	12.1(12)	1.3(33)	1.4(19)	34.2(7)	13.3(16)	15.1(14)	5.2(27)	3.6(28)
Ireland	165.1(19)	132.3(1)	3.9(16)	1.8(7)	23.9(5)	20.6(3)	44.0(18)	14.4(4)	26.5(3)	7.5(41)	2.4(10)	2.1(5)	19.9(22)	13.1(18)	13.3(22)	6.3(18)	2.8(40)
Israel	129.6(32)	118.5(11)	1.3(45)	1.2(17)	13.9(26)	13.6(21)	25.6(30)	7.2(13)	24.6(7)	5.9(44)	2.3(11)	1.3(24)	14.9(35)	9.8(27)	8.1(34)	6.6(11)	5.6(1)
Italy	169.2(17)	100.7(27)	5.8(7)	0.8(33)	16.9(22)	12.4(24)	42.3(21)	5.2(28)	18.4(22)	10.8(17)	1.4(30)	0.9(33)	26.1(16)	13.3(17)	10.7(29)	6.5(14)	4.4(16)
Japan	141.3(28)	88.0(34)	1.7(42)	0.7(38)	10.9(30)	8.4(32)	19.3(33)	5.7(21)	4.8(43)	9.2(25)	0.7(41)	0.5(41)	56.6(1)	29.0(1)	2.4(41)	4.2(34)	3.1(35)
Luxembourg	193.4(7)	106.1(20)	7.0(5)	1.0(26)	22.0(10)	13.1(22)	54.1(7)	3.8(38)	20.0(16)	10.3(20)	1.6(26)	2.0(7)	18.6(27)	9.7(29)	19.5(2)	2.8(41)	3.0(37)
Mexico	58.0(42)	73.5(41)	1.5(43)	0.6(42)	2.5(43)	3.3(43)	8.9(42)	3.9(37)	5.7(42)	19.0(4)	0.7(42)	0.7(36)	9.9(41)	9.0(31)	6.3(38)	2.6(42)	2.2(42)
Netherlands	193.4(6)	113.8(16)	2.0(37)	0.6(43)	19.4(18)	15.8(15)	70.6(3)	4.4(32)	26.6(2)	8.1(34)	1.9(16)	1.4(20)	21.4(20)	9.7(28)	15.6(11)	6.6(12)	4.1(22)
New Zealand	174.5(14)	121.8(8)	3.3(22)	1.3(14)	25.6(1)	24.0(2)	48.5(11)	10.9(8)	24.9(6)	8.8(28)	5.1(2)	3.2(1)	13.9(38)	7.0(38)	17.4(6)	7.4(2)	4.8(5)
Northern Ireland	170.3(15)	118.1(12)	2.4(33)	1.6(9)	24.3(3)	20.4(4)	53.0(8)	11.0(7)	23.0(12)	7.8(37)	1.6(27)	1.2(28)	19.3(24)	11.8(20)	13.8(19)	6.3(20)	3.1(36)
Norway	136.8(29)	101.8(25)	2.7(28)	1.2(18)	15.0(23)	12.9(23)	21.0(32)	4.3(33)	18.1(23)	8.0(36)	3.5(3)	2.4(3)	17.4(30)	9.8(26)	18.3(4)	6.7(8)	4.2(20)
Panama	78.4(41)	62.9(42)	2.0(38)	2.2(4)	5.6(39)	4.7(41)	10.6(40)	3.2(42)	6.6(40)	11.8(13)	1.3(34)	0.2(44)	15.9(32)	6.8(39)	8.9(31)	3.4(39)	1.5(43)
Philippines	56.6(43)	46.8(43)	4.7(13)	3.4(3)	3.8(42)	2.8(44)	6.8(43)	2.7(43)	5.7(41)	8.4(33)	0.9(37)	0.6(39)	6.5(43)	4.7(43)	1.6(43)	3.0(40)	2.7(41)
Poland	160.4(22)	101.2(26)	4.9(10)	1.1(21)	10.7(32)	8.4(33)	43.9(19)	5.6(23)	12.9(29)	13.2(9)	1.9(15)	1.5(13)	35.1(5)	14.6(10)	8.0(35)	5.5(26)	3.7(27)
Portugal	127.5(34)	85.3(36)	4.9(11)	0.9(29)	14.4(25)	11.8(27)	14.7(39)	3.4(40)	13.9(27)	10.9(16)	1.7(23)	1.3(25)	34.5(6)	17.4(5)	12.6(23)	5.6(25)	4.1(21)
Puerto Rico	121.5(38)	79.7(38)	9.6(4)	2.2(5)	7.0(36)	6.6(36)	15.8(37)	5.5(26)	10.1(36)	10.7(18)	0.8(38)	0.5(42)	18.7(26)	8.9(32)	13.7(20)	4.7(30)	3.9(26)
Romania	125.1(36)	86.1(35)	2.7(30)	0.7(39)	6.7(37)	6.1(38)	28.8(28)	5.4(27)	10.3(35)	17.7(5)	1.8(18)	1.2(29)	28.1(13)	13.6(15)	8.4(33)	4.6(32)	3.2(34)
Scotland	205.0(2)	128.7(3)	3.3(21)	1.2(19)	24.7(2)	19.3(5)	83.9(1)	17.1(2)	25.6(4)	8.7(29)	2.0(14)	1.5(14)	19.2(25)	10.3(24)	11.4(27)	4.8(29)	3.6(29)
Singapore	162.1(21)	90.2(32)	15.2(2)	5.0(2)	13.8(27)	10.5(29)	41.5(22)	13.3(5)	10.5(34)	10.2(21)	1.4(31)	0.7(37)	30.2(10)	13.4(14)	0.6(44)	3.9(35)	3.0(38)
Spain	142.9(27)	89.0(33)	3.8(18)	0.5(44)	11.1(29)	11.9(26)	26.8(29)	4.2(35)	11.8(30)	8.1(35)	1.4(32)	1.0(32)	24.8(17)	13.7(13)	12.0(25)	4.7(31)	3.2(32)
Sweden	146.6(26)	112.3(17)	2.3(36)	1.1(22)	18.7(20)	13.9(19)	23.7(31)	6.0(19)	20.0(17)	8.4(32)	2.4(8)	1.5(15)	16.3(31)	8.3(33)	21.9(1)	6.7(9)	4.9(3)
Switzerland	175.2(13)	103.5(22)	6.2(6)	1.0(27)	20.0(17)	12.0(25)	46.8(14)	4.1(36)	23.8(9)	9.5(24)	3.3(4)	1.9(8)	18.1(28)	10.2(25)	19.1(3)	5.8(23)	4.0(23)
Thailand	34.3(45)	24.9(46)	2.3(35)	1.4(11)	1.9(45)	1.2(45)	4.8(44)	2.1(44)	1.1(45)	3.6(46)	0.2(44)	0.1(45)	2.2(46)	1.1(46)	0.3(45)	0.9(46)	0.7(46)
Trinidad & Tobago	104.7(39)	102.9(23)	3.0(25)	1.4(12)	14.7(24)	11.7(28)	16.4(36)	5.0(30)	13.0(28)	28.9(1)	0.0(46)	1.1(30)	17.9(29)	11.7(21)	18.3(5)	1.1(45)	5.1(2)
Uruguay	192.9(8)	122.9(7)	5.4(8)	0.5(45)	18.1(21)	17.9(9)	40.1(23)	3.2(41)	24.6(8)	12.7(11)	1.6(28)	0.7(38)	28.5(12)	13.8(12)	17.2(7)	5.1(28)	4.6(10)
Venezuela	101.0(40)	100.4(28)	2.6(31)	2.1(6)	5.0(40)	5.8(39)	15.6(38)	6.9(16)	8.5(38)	24.3(2)	1.8(19)	1.7(9)	27.7(14)	17.2(6)	10.1(30)	3.7(38)	3.2(33)
Yugoslavia	127.2(35)	82.9(37)	3.4(20)	0.7(40)	9.2(35)	7.5(35)	32.5(27)	5.6(24)	11.3(31)	11.2(14)	1.7(24)	1.3(26)	24.0(19)	11.5(22)	8.0(36)	4.4(33)	3.3(31)

NOTE: Figures in parentheses are order of rank within site and sex group.

Source of Data: World Health Statistics Annual 1977-1978.

LUNG CANCER AND SMOKING

This past year, a new Surgeon General's Report, issued 15 years after the first one officially linked cigarette smoking with lung cancer, declared that smoking is "far more dangerous than was supposed in 1964."

The report is a compendium of 22 scientific papers on smoking and health, compiled by 12 agencies of the Department of Health, Education and Welfare.

Today, more than 100,000 Americans have lung cancer. Smoking is responsible for about 83 percent of cases among men, and 43 percent among women – more than 70 percent overall. In 1980, some 117,000 will be stricken with the disease. In 1977, for the first time, the female age-adjusted lung cancer death rate per 100,000 exceeded that for colon-rectum cancer, 14.9 for lung compared with 14.3 for colon-rectum. Although lung cancer is largely preventable – by not smoking – diagnosis is difficult in time for cure. Only about 10 percent of lung cancer patients are saved, and in 1980 about 101,300 are expected to die, the equivalent of about 278 a day.

OTHER DISEASES

Smoking also has been implicated in cancers of the mouth, pharynx, larynx, esophagus, pancreas and bladder. Together with lung cancer, they account for a total of 20 percent of all cancers. Smoking is also linked to conditions ranging from colds and gastric ulcers to chronic bronchitis, emphysema and heart disease. These smoking-related disorders are estimated to cause some 325,000 premature deaths each year, and cost the nation about $27 billion in medical care.

"Cigarette smoking," declared the Surgeon General's Report, "is the single most important, preventable, environmental factor contributing to illness, disability and death in the United States."

SMOKERS DECLINING

In recent years, the proportion of adult smokers in the U.S. population has been declining. From 1964 to 1975, adult male smokers dropped from 52 to 39 percent, while women smokers dwindled from 34 to 29 percent.

Teen-age smoking increased significantly in the late 1960's and early 1970's, and still concerns medical authorities. However, a recent government study indicates that teen-age smoking has begun to decline. The overall number of boys and girls aged 12 to 18 who smoke dropped 25 percent between 1974 and 1979.

The number of cigarettes smoked per person went down from 4,345 in 1963 to 3,965 in 1978, putting per capita consumption at the lowest level in 20 years. Some 30 million Americans are now ex-smokers. Yet about 54 million Americans still smoke, consuming more than 615 billion cigarettes each year.

SMOKING HAZARDS

The Surgeon General's Report links maternal smoking directly with a slowing of fetal growth and an increase in the risk of the child dying before, at or shortly after birth. The report also says there is evidence that children of smoking mothers may have deficiencies in physical growth, intellectual development and/or emotional development.

Industrial workers are especially susceptible to lung diseases due to the combined effects of cigarette smoking and exposure to toxic industrial substances such as fumes from rubber and fluorocarbon polymers, chlorine and dust from cotton and coal. Exposure to radioactive substances and asbestos in combination with cigarette smoking increases an individual's cancer risk many times.

THE CHANGING CIGARETTE

Tobacco companies, in the face of consumer demands, have taken some steps to reduce the hazards in cigarettes, although a truly "safe" cigarette does not exist.

The average tar content dropped from 36 mg. in 1954 to 23 mg. ten years later, and 17 mg. in 1977. Nicotine levels declined from 2 mg. to 1.3 mg. and 1.1 mg.

An autopsy study by Auerbach, Hammond and Garfinkel adds to previous evidence that low tar and nicotine cigarettes are somewhat less hazardous than those with higher levels, although still much more

dangerous than not smoking at all.

Today, more than 40 percent of the cigarette brands on the market are in the low tar and nicotine category (15 mg. of tar or less and 1 mg. of nicotine), and about 35 percent of all sales are low tar and nicotine.

Besides tar and nicotine, however, cigarette smoke contains poisonous gases – hydrogen cyanide, volatile aromatic hydrocarbons, and especially carbon monoxide – which the Surgeon General's Report cites as a possible critical factor in coronary heart disease and fetal growth retardation, among other things. Despite some reduced hazards because of the growing number of filtered cigarettes, certain filtered brands have been found to deliver more carbon monoxide than those without filters.

Although per capita cigarette smoking and the percentage of smokers in the U.S. population have begun to decline, levels of lung cancer and other diseases continue to rise. This is because these disorders usually take decades to appear. We are now seeing cancer that began back in the 1940's, 1950's and early 1960's, but if the smoking decline continues, we can look forward to a leveling off and eventually a decline in smoking-related diseases.

BREAST CANCER

About 109,000 new cases of breast cancer and 36,000 deaths from the disease are expected in 1980. Breast cancer remains the foremost site of cancer death in American women. It also strikes men, but this accounts for less than one percent of all breast cancers.

Although breast cancer is found most often among women of middle age and older, in recent years the ACS has extended its educational efforts to include girls of high school age. It is especially important for that age group to begin breast self-examination (BSE) as a monthly health habit. It is one of the best ways for women of all ages to find breast cancer in an earlier stage.

About one out of 11 American women will develop breast cancer at some time during their lives. The disease often can be cured or controlled if it is detected early by BSE, and/or regular professional checkups, including mammography (breast X - rays.)

When breast cancer is discovered in a localized stage, current therapy is highly effective, making possible a five-year survival rate of 85 percent. More than 90 percent of breast cancers are discovered by the women themselves, often through BSE. If the cancer already has spread to the axillary lymph nodes, the five-year relative survival rate drops to 56 percent.

More localized breast cancer is being found today than ever before as a result of the response to public education, the cooperation of the media, an alert medical profession and the use of modern technological methods such as mammography.

The ACS urges women who find lumps, nipple discharge or other changes in their breasts to see a physician without delay. Most breast lumps are not malignant, but only a physician can make the diagnosis and recommend appropriate treatment.

Breast cancer therapy varies according to the individual patient's condition and needs. The physician selects the best treatment after careful evaluation. Recommendations for surgery, radiation, hormonal therapy and chemotherapy depend on the type, size, location and extent of the tumor, as well as other pertinent factors.

A recent Gallup study showed that 75 percent of the women questioned had had a professional breast examination (up from 67 percent in 1967). Seventy-five percent also said they had done breast self-examination (BSE), but only 24 percent said they were doing it on a monthly basis. Of those not practicing BSE, 37 percent said they would like to learn how.

When an operable breast cancer is found, depending on the type and stage of the cancer, the operation may vary from removal of the lump, and some adjacent breast tissue, removal of the breast (total mastectomy), removal of the breast and axillary lymph nodes (modified radical mastectomy), or removal of the breast, underlying muscles and axillary lymph nodes (radical mastectomy). A plastic surgeon may be consulted by the general surgeon before a mastectomy to plan for possible reconstruction of the breast later on.

Radiation can be used in combination with other treatment methods to help cure breast cancer; to control tumor growth, or to alleviate pain or ulceration of an advanced cancer.

Chemotherapy may be used in combination with surgery or radiation therapy to cure some breast cancers.

Newer drug combinations can sharply reduce the recurrence rate of breast cancer in some patients after surgery. Drug combinations also can provide prolonged control for a number of advanced breast cancers.

BREAST CANCER DETECTION DEMONSTRATION PROJECTS

The ACS and the National Cancer Institute jointly funded 27 Breast Cancer Detection Demonstration Projects across the nation to evaluate the ability of modern diagnostic technology to find breast cancers as early as possible.

The ACS initiated the program in 1971, and was joined the following year by the National Cancer Institute. The additional financial backing made possible an expanded effort, involving nearly 300,000 women aged 35 to 74. They were examined regularly for a five-year period, and those with positive findings are being followed.

The cancers found through the program were localized – confined to the breast – in about 80 percent of the women. Outside the projects, in the usual hospital population, only about 45 percent of breast cancers are found before they have spread to the axillary lymph nodes.

The standard examination included a three-part procedure: (1) interview (health history related to the breast); (2) palpation (physical examination) plus instruction in BSE; and (3) mammography.

It is important to note that mammography is recognized as a valuable *diagnostic tool for symptomatic women of any age.* In the ACS/NCI projects, the following guidelines were adopted in mid-1976 for screening asymptomatic women:

1. All women over the age of 50 may have mammograms annually.
2. Women 40 through 49 may have mammography if they or their mothers or sisters have had breast cancer.
3. Women 35 through 39 may have mammography if they have a personal history of breast cancer.
4. All women may receive a clinical examination and instruction in breast self-examination.

Risk factors for all women are: a personal history of breast cancer, being over the age of 50, lumps and thickening in the breast, nipple discharge and other abnormalities, a family history of breast cancer on the mother's or father's side or in sisters, late menopause, no childbirth, first child at age 30 or over and early onset of menstruation.

For many women at higher risk of developing breast cancer, the benefits of low-dose mammography in finding early curable cancers now outweigh a slightly increased presumed risk for radiation several decades later.

Equipment in the ACS/NCI projects is constantly monitored and refined to make sure that the lowest amount of radiation is used which still produces reliable X-ray images.

UTERINE CANCER

Uterine cancer deaths could be reduced dramatically if every adult woman had a Pap test during her regular health checkup, and if every woman over 35 reported any abnormal bleeding promptly to her physician.

The combined figures for the two forms of uterine cancer – cervical (neck of the uterus) and endometrial (body of the uterus) – are estimated at 54,000 new cases in 1980, and 11,000 deaths. If cervical carcinoma in situ (cancer limited to the layer of tissue from which it originated) were included, the incidence would be more than 99,000 cases. The death rate from uterine cancer has decreased by more than 70% during the last 40 years. Including both forms, uterine cancer has the fourth highest cancer death rate in women. Breast cancer is first, lung cancer is second and colon-rectum cancer, third.

CERVICAL CANCER

The Pap test is highly accurate in detecting cervical cancer at an early stage. It can also show cell changes that could develop into cancer. The Pap test is the examination under a microscope of cells normally shed from the body of the uterus and from the cervix. These cells collect in the vaginal fluid and can be collected, along with cells taken from the surface of the cervix, on a cotton swab or stick. This is a simple procedure which can be performed routinely by physicians as part of every pelvic examination.

If every woman had a Pap test with her regular health checkup, there would be virtually no deaths from cervical cancer. The overall five-year survival rate for cancer of the cervix is about 60 percent. The overall five-year survival rate for cancer of the endometrium is about 75 percent, but the five-year survival rate for cases detected in the earliest stages is 86 percent.

Women susceptible to cervical cancer include those over 20 years of age, and those younger who

have had frequent sex in their early teens or with many partners. New cases of cervical cancer are estimated at 16,000 for 1980. Deaths are estimated at 7,400.

Cervical cancer is more common in low socio-economic groups. Puerto Rican immigrant women have about four times as much cervical cancer as mainland U.S. women. There is also more cervical cancer among black women (34 per 100,000) than white women (15 per 100,000).

ENDOMETRIAL CANCER

Endometrial cancer is most often a disease of mature women. Of the more than 50 million women over 35 years of age, about 700,000 eventually will develop this type of cancer. Most cases are diagnosed in the 50-64 age group. This year there will be about 38,000 new cases and 3,200 deaths.

Estrogen, which is a hormone, is given to women during and after the menopause to make up for the decline in estrogens normally produced by the ovaries. Estrogen helps to control menopausal symptoms such as hot flashes or thinning of the vaginal lining causing painful sexual intercourse.

For older women, there are certain risks associated with such treatment, including an increased risk for endometrial cancer. However, estrogen can be given safely under careful physician control and for limited periods of time.

Since the Pap test is only about 40 percent effective in detecting endometrial cancer, the Society believes that every woman at menopause should have a pelvic examination as well as a Pap smear. Those at high risk of endometrial cancer also should have an endometrial tissue sample examined. High risk has been defined as having a history of infertility, obesity, failure of ovulation, abnormal uterine bleeding, or estrogen therapy. ACS educational programs on endometrial cancer are being accelerated.

COLON-RECTUM CANCER

Cancer of the colon and rectum will strike 114,000 Americans this year. About 53,000 die of it annually, although more than two out of three patients might be saved by early diagnosis and prompt treatment.

Evidence has been developed in recent years suggesting that most bowel cancer is caused by environmental agents. There is a growing indication that dietary patterns play a key role, with some scientists believing that a diet high in beef and/or deficient in high fiber content may be a significant causative factor. Research in both these areas is continuing.

Fortunately, colorectal cancer can be detected at an early stage with procedures now available:

Digital Rectal Examination – By inserting a gloved finger into the rectum, the physician can inspect the anal area.

Guaiac Testing for Occult Blood – The use of guaiac impregnated slides is a simple, inexpensive method of testing the feces for blood. This is often done in the doctor's office; there is also a kit for use at home where the individual prepares stool samples on guaiac slides from three consecutive bowel movements.

Proctosigmoidoscopy – A lighted tube is passed into the rectum and lower colon through which the physician can inspect the wall visually for a distance of about 12 inches. Fifty to sixty percent of all colorectal cancers are within reach of this instrument.

If there is blood in the stool and the procto is negative, the physician may recommend a barium X-ray examination, or colonoscopy – a technique for viewing the entire colon with a flexible lighted tube. Biopsy of suspicious tissue also can be obtained through the colonoscope.

Depending on the type and stage of the disease, an operation for colorectal cancer consists of removing the part of the bowel containing the tumor. Although surgery is the most effective current method of treating colorectal cancer, radiation therapy and chemotherapy, in combination with surgery, are being used in some cases.

About 70 percent of patients undergoing surgery for early colorectal cancer survive the crucial first five years after treatment, after which the chances of cure are very good.

SKIN CANCER

About 400,000 new cases of skin cancer occur in the United States each year. Fortunately, most of these are highly curable basal or squamous cell cancers.

The vast majority of skin cancers can be prevented by avoiding overexposure to the sun. The most serious skin cancer, however, is malignant melanoma, which is not necessarily sun-related. It strikes about 14,000 men and women each year. New cancer drugs are making progress against

melanoma, but it still accounts for most of the 6,200 lives lost annually to skin cancer (4,600 melanomas; 1,600 other skin cancers).

From outward appearance, basal and squamous cell skin cancers are often indistinguishable. They generally show up on the skin in one of two forms –either as a pale, waxlike, pearly nodule that may eventually ulcerate and crust, or as a red, scaly, sharply outlined patch.

Melanomas are usually distinguished by a dark brown or black pigmentation. They start as small, mole-like growths that increase in size, change color, become ulcerated and bleed easily from a slight injury.

In every case of skin cancer, early detection and prompt treatment are important.

You can help protect yourself. Sunbathe before 10:00 A.M. and after 3:00 P.M. when ultraviolet rays are weakest. The best cover-up available is a chemical one–any of the popular brand name sunscreens that contain PABA (para-aminobenzoic acid). These preparations absorb ultraviolet rays and allow gradual tanning. They work most effectively if applied about 45 minutes before exposure, and should be reapplied after swimming or perspiring.

Another type of chemical protection, the sunblock, deflects the ultraviolet rays totally, and is most useful in shielding lips, nose and other extra-sensitive areas. A well-known sun blocking agent is zinc oxide, an opaque white ointment often used by lifeguards.

ORAL CANCER

Oral cancer strikes approximately 26,000 persons in the United States each year and causes 9,000 deaths. It is found most frequently in men over 40 years of age. The incidence is three times higher in males than in females.

Oral cancer accounts for about three percent of all cancers that occur annually in the nation. It usually can be detected in the early stages by a physician or dentist. When discovered early in its course, the chances of a cure are good.

The tongue accounts for about 17 percent of mouth cancers, the lips about 18 percent and the salivary gland about 8 percent. Approximately 28 percent are pharyngeal cancers which occur between the mouth and the esophagus. Other sites include the floor of the mouth, gums, palate, tonsils, lower jaw, and cheeks.

Although scientists do not yet know what causes oral cancer, they have identified many factors that contribute to its development. Among them are poor oral hygiene and chronic irritation such as that caused by jagged teeth, projecting fillings and ill-fitting dentures.

Many studies have shown a significant link between mouth cancer and the habit of smoking or chewing tobacco. The death rate from mouth cancer is now rated about four times higher for cigarette smokers than for nonsmokers.

The smoking of cigars and pipes is believed to be a cause of mouth cancer because high heat irritates mouth tissue.

Oral cancers also occur more frequently among heavy drinkers of alcohol. Since heavy drinkers are often heavy smokers, the combination is suspected of increasing the chance of developing oral cancer.

LEUKEMIA

Leukemia is a cancer of the blood-forming tissues, striking both sexes and all ages. In 1980 there will be 22,000 projected new cases and 16,000 deaths.

All blood-forming tissues release millions of each type of cells daily into one of the body's two circulatory systems–the blood vessel system and the lymph system. When leukemia strikes, millions of abnormal, immature white blood cells called leukocytes are released into these circulatory systems.

Because these cells are immature, they cannot carry out their basic function of fighting infection. In advanced leukemia, the uncontrolled multiplication of abnormal cells results in crowding out the production of normal white cells to fight infection, of platelets to control hemorrhaging and of red blood cells to prevent anemia.

The two major forms of leukemia are acute (11,000 cases and 10,000 deaths estimated in 1980) and chronic (11,000 cases and 6,000 deaths). Five-year survival rates are higher for patients with chronic leukemia – 32 percent compared with five percent for those with acute leukemia.

Overall, five-year survival is about 20 percent. Virtually all chronic cases are in adults, whereas acute lymphocytic leukemia accounts for most cases in children.

Although it is often thought of as primarily a childhood disease, leukemia strikes many more adults (19,500 cases per year compared with 2,500 in children). Acute lymphocytic leukemia accounts for about 1,700 of the cases of leukemia among children, whereas in adults the most common types

are acute granulocytic (about 5,800 cases annually) and chronic lymphocytic (about 6,300 cases annually).

Today continuing research in 80 U.S. medical centers is yielding new and better drugs for treating leukemia patients. This chemotherapy is lengthening survival time dramatically – in some cases 10 years or more, even inducing cures.

The first temporary remissions in acute lymphocytic leukemia were achieved through chemotherapy in 1947. Today remission rates of up to 90 percent are being recorded in some medical centers. As recently as 1960, five-year remissions were extremely rare, but now with optimum treatment between 50 and 75 percent of the patients with this predominantly childhood leukemia are living five years or longer.

CANCER IN CHILDREN

Cancer is rare in children, although it is the chief cause of death by disease in children aged 3 to 14. Childhood cancers tend to develop more quickly than adult cancers because body tissues are growing rapidly and the cancer grows right along with them.

Incidence and mortality due to childhood cancers have declined slightly over the years. In 1980, cancer is expected to strike some 6,100 children and kill about 2,300.

Nineteen Comprehensive Cancer Centers across the country (see p. 31) now supply extensive information services to the local medical community and can refer pediatric oncologists and other specialists to work with local physicians in planning treatment and rehabilitation.

Common childhood cancers include leukemia (accounting for about half of the deaths), and cancers of the brain and central nervous system, soft tissue, kidney and bone.

For all forms of cancer occurring in children under 15, the five-year survival rate age-adjusted for normal life expectancy is 39%. For the most frequent forms, the rate ranges from nil for some leukemias to 84% for eye tumors. In Comprehensive Cancer Centers the five-year survival rate is 50%-75% for children with acute lymphocytic leukemia; these results reflect aggressive treatment. More than 60% of leukemias in children are the acute lymphocytic variety.

THE AMERICAN CANCER SOCIETY

The American Cancer Society, Inc., is a voluntary organization of 2½ million Americans united to conquer cancer. It is a national organization fighting cancer through balanced programs of research, education and patient service and rehabilitation. Its symbol is the Sword of Hope–a double-edged blade with twin serpent caduceus to emphasize the medical and scientific aspects of the Society's program; it appears on all ACS materials and is displayed at meetings, lectures, exhibits and film showings.

How organized: The American Cancer Society, Inc., is composed of a National Society, with 58 chartered Divisions, and 3,035 local Units.

The National Society: A 194-member "House of Delegates" provides a basic representation from the 58 Divisions and additional representation on the basis of population. It elects and is governed by a Board of Directors of 116 voting members–approximately half are members of the medical or scientific professions and half are laymen. The National Society is responsible for overall planning and coordination, and provides technical help and materials to Divisions and Units. The National Society administers programs of research, medical grants and clinical fellowships, and is charged with carrying out public and professional education on the national level.

The 58 Divisions: These are governed by 3,824 members of Divisional Boards of Directors, both medical men and laymen, in all the states plus six metropolitan areas, the District of Columbia and Puerto Rico. Physicians and dentists also serve as regular volunteers.

The Units: These are organized to cover the 3,130 counties in the U.S. There are more than 73,200 community leaders who direct the Society's programs at this level. The basic strength of the Society lies in the loyal ranks of volunteers fighting cancer in their communities.

The Programs: The ACS maintains its priorities and goals through activities developed by the departments of Research, Professional Education, Public Education, Public Information, Epidemiology & Statistics, Service & Rehabilitation, and Crusade.

PUBLIC EDUCATION

The Society's Public Education program helps save lives from cancer by showing Americans across the country simple ways to prevent some cancers and detect others early, when the chance of cure is greatest.

Public Education encourages people to adopt positive health habits as part of their lifestyles. The approach is through education, persuasion and demonstration of recommended health actions such as: monthly breast self-examination (BSE), guaiac slide testing, and quit-smoking clinics.

VOLUNTEERING, PERSON-TO-PERSON

Special emphasis is placed on projects involving person-to-person contact. A recent Gallup Study indicated a broad receptiveness to that kind of cancer education. The Society uses a number of specialized volunteers, individuals already trained professionally in certain skills that can be adapted to fighting cancer.

Their efforts are being focused on the Society's six priority adult sites: lung, colon-rectum, breast, uterus, oral and skin.

Ex-smokers are leading Quit Smoking Clinics to help smokers kick the habit that causes most lung cancer. The "I Quit Kit" is a self-help packet containing a record, calendar and a step-by-step guide on quitting. Two new antismoking films have recently been produced. "Who's In Charge Here?" shows high school students the immediate physiological effects of smoking, and "Why Quit Quiz," aimed at the general adult audience, emphasizes the health benefits of quitting smoking.

Volunteers are instructing groups in the use of the "Do-it-Yourself" guaiac slide test to detect invisible blood in the stool, a key symptom of colo-rectal cancer. Nurses are teaching BSE and women at or after menopause are being encouraged to have endometrial tissue samplings taken.

YOUTH PROGRAMS

Although cancer occurs mainly in adults, good health habits and a familiarity with major diseases such as cancer should begin early. The Society conducts a variety of youth programs on health and science topics, and produces youth-oriented films, filmstrips, posters and pamphlets. The multimedia "Early Start to Good Health" program introduces good health habits to children in kindergarten through the third grade. Elementary teachers serve as specialized volunteers in bringing this important program to schools. The "Health Network" teaching kit, a new addition to our youth education program, encourages students in grades four through six to decide for themselves not to smoke and promotes the adoption of good general health habits.

PROGRAM STRUCTURE

Most ACS educational programs are built around three essential ingredients: a film, a medical or lay speaker, and, most important, a discussion session designed to involve participants and help produce positive health habits.

All ACS programs are free, and are conducted in schools, neighborhoods, clubs and places of employment, so they can reach the most people in the most effective way. Each program can be tailored to the time and interests of each group. During the annual ACS Cancer Crusade, volunteers make personal home visits, urging individuals to protect themselves against cancer.

Last year, local Public Education programs involving two-way communication reached almost 25 million people throughout the country. The number of youth programs increased to 415,000 and the number of adult programs amounted to 348,000. The ACS in conjunction with business and industry developed employee cancer education programs reaching hundreds of thousands of workers across the United States.

CANCER'S 7 WARNING SIGNALS

Change in bowel or bladder habits

A sore that does not heal

Unusual bleeding or discharge

Thickening or lump in breast or elsewhere

Indigestion or difficulty in swallowing

Obvious change in wart or mole

Nagging cough or hoarseness

If YOU have a warning signal, see your doctor!

THE 7 SAFEGUARDS URGED BY ACS

Lung: Don't smoke cigarettes.

Colon-rectum: Get a proctoscopic exam as part of a regular checkup, after age 40.

Breast: Practice monthly breast self-examination.

Uterus: Get a Pap test as part of a regular checkup.

Skin: Avoid over-exposure to the sun.

Oral: Have a regular mouth examination by your physician or dentist.

Complete Body: Have an overall physical checkup regularly.

PROFESSIONAL EDUCATION

ACS Professional Education programs bring the latest developments in cancer to the medical community: members and students of the medical, dental, nursing and allied health professions. National conferences, clinical fellowships, Division and Unit level meetings, workshops and scholarships provide interchange of information and training in the prevention and early detection of cancer, and the treatment and rehabilitation of cancer patients.

Films, speakers, publications and exhibits are available to other organizations for professional education programs. The ACS publishes "Ca—A Cancer Journal for Clinicians," which is directed particularly to the primary physician and has a total circulation of more than 400,000. The Society supports the publication of the journal "CANCER," which is directed to those specializing in the care of the cancer patient.

The Society maintains a library of Professional Education motion pictures, available in 16mm. and 8mm. cartridge film formats, as well as in ¾-inch videocassettes. All are distributed through ACS Divisions and Units on a free loan or five-year lease basis.

ACS national conferences in 1979 included one on Urologic Cancer in April, and another on Breast Cancer in September. The proceedings of these conferences are published and serve as important Professional Education tools.

CLINICAL FELLOWSHIPS

The ACS National Clinical Fellowship program has, since 1948, invested more than $25 million for the training of approximately 4,900 physicians and dentists in the diagnosis and treatment of cancer. Training is provided on two levels at approved teaching centers and hospitals. The regular Clinical Fellowship program, for hospital residents, is designed to improve the management of the patient with cancer by supporting clinical oncology training for young physicians and dentists. The Junior Faculty Clinical Fellowship program, for post-resident physicians and dentists, is intended to strengthen cancer teaching programs by supporting outstanding young clinicians in academic careers, upon completion of their specialty training.

Fellows put their special skills and knowledge to work through their professional societies, teaching activities, participation in hospital cancer programs and in their private practice. Many new departments and divisions of oncology in hospitals and medical schools in the nation are now headed by former ACS Fellows. During 1978-79, training was given to 270 Clinical Fellows and 137 Junior Faculty Clinical Fellows throughout the country.

CLINICAL PROFESSORSHIPS

The ACS supports a program for Professors of Clinical Oncology, and it is designed to advance cancer control and the care of cancer patients by improving cancer teaching in medical schools. Each grant pays a portion of the yearly salary of an oncologist, who sets up a cancer teaching program in his/her medical school. The professorship is aimed both at strengthening an institution's cancer curriculum and at increasing its staff. Each ACS Clinical Professor must be an addition to a school's total faculty, rather than a replacement.

UNPROVEN METHODS OF CANCER MANAGEMENT

The American Cancer Society maintains an extensive reference center for the collection and dissemination of data on unproven methods of cancer management. This information is available on request to physicians, science writers, editors and the general public, to assist in evaluating claims made for unproven methods of cancer prevention, detection, diagnosis and treatment.

ACS Divisions across the country are actively involved in strengthening and encouraging passage of state legislation to curb the use of unproven methods of fighting cancer.

One well-known example of unproven methods is laetrile, a substance extracted from apricot pits. After exhaustive and repeated tests by many clinical and research institutions, the American Cancer Society, the Food and Drug Administration and most major medical institutions concluded that laetrile was not effective in the prevention or treatment of cancer in humans.

Many other methods of cancer management also are being followed closely, and those judged ineffective—presently more than 70—are reviewed regularly for any possible merit.

Occasionally new evidence shows some of these methods to have some benefit against cancer, and the ACS position on them is revised accordingly. The Society always welcomes new developments which have been proven effective in the prevention, detection, diagnosis or treatment of cancer.

SERVICE AND REHABILITATION

As part of its total attack on cancer, the American Cancer Society conducts extensive Service and Rehabilitation programs to assist patients and their families. In 1978-79, more than 450,000 patients were reached through various ACS Service and Rehabilitation programs.

SERVICE

The Units conduct a basic service program which includes: 1) information and guidance for the cancer patient and family by helping them make the best use of ACS services, community health services and other resources; 2) loans of sick-room supplies and special comfort items to assist in caring for the homebound patient such as hospital beds, wheelchairs, etc.; 3) surgical dressings prepared by volunteers; 4) transportation to and from a doctor's office, clinic or hospital for treatment.

Depending on local policies and resources, programs may be expanded to include more extensive services. These may include:

Home Health Care – Home health care is an important alternative for cancer patients who need long-term assistance of some sort and yet are neither financially nor psychologically prepared for an extended stay in a hospital or nursing home. The Society provides services by its own volunteers wherever possible, and also coordinates other available community services.

Blood Program – ACS Divisions are establishing close ties with existing blood-collecting and processing facilities in each area, determining needs not now being met and assisting in the recruitment of blood donors. The ACS blood effort also is designed to keep treatment facilities informed on the latest uses of blood and blood components in cancer therapy.

Childhood Cancer – The Society has established a National Advisory Committee on Childhood Cancer, and similar committees in about two dozen ACS Divisions across the country. Committee members include pediatric oncologists, psychiatrists, nurses, social workers and teachers as well as parents and others. Growing out of these committees are

counseling and education programs to help meet the needs of families with children who have cancer. There is also a close relationship between the Society and the Candlelighters, a self-help group of parents who have or had children with cancer.

REHABILITATION

The major ACS rehabilitation programs are primarily directed toward the new laryngectomy, mastectomy or ostomy patient, offering psychological and physiological assistance to improve the quality of survival. Over 90,000 patients were assisted this past year.

Thousands of individuals who have experienced similar surgery assist patients on a one-to-one basis. With approval by the attending physician, these carefully selected and trained volunteers provide invaluable help—someone for the patient to see and talk to who has successfully coped with the same surgery. Confidentiality is respected in all cases.

Educational materials including audio-visual aids directed at cancer patients and their families are available from the local ACS Unit or Division.

Laryngectomee Rehabilitation Program – Since the formation of the International Association of Laryngectomees in 1952, the American Cancer Society has been the sole sponsor of the National IAL office.

Today, most affiliated clubs are sponsored to some degree by local Units of the Society.

The National IAL sponsors training of esophageal speech therapists. A list of certified speech teachers is available upon request from ACS Units or Divisions as well as from local Lost Chord Clubs. A new film, "Three Critical Minutes – Emergency Air for Neck Breathers," is a valuable new tool in the instruction of first aid and emergency personnel in the proper handling of such patients.

In 1979, there were 277 affiliated clubs representing 48 states and 16 foreign countries registered with the National IAL.

Mastectomy Rehabilitation Program – Reach to Recovery is a program designed to aid the woman who has had surgery for breast cancer. Since 1969, this program has experienced unparalleled acceptance in all Divisions of the Society. With the help of thousands of volunteers, more than 67 percent of all mastectomy patients are receiving psychological and physiological rehabilitation.

Ostomy Rehabilitation Program – This program, originally designed to assist the colostomy and urinary ostomy patient, has been expanded to aid all ostomy patients—including those with ileostomies.

Many Divisions are promoting the training of enterostomal therapists (ET's) who are allied health professionals trained to assist people with stomas. More than 1,000 ET's have been trained since 1970, and over 50 percent of them received this instruction through the support of the American Cancer Society.

Self-help Programs – A number of service and rehabilitation programs are begun at the Unit or Division level, drawing heavily on the manpower of patients themselves and other volunteers. Some of these programs have grown into national efforts. Among them are: *I Can Cope*, a program that helps patients understand cancer as a disease, learn the proper nutrition and exercise, and handle problems of stress and self-image; *CanSurmount*, a one-to-one visitation program of successfully rehabilitated patients helping other patients through sympathy and caring; and the *Cancer Adjustment Program*, a counseling program for such groups as parents of children with cancer, spouses of cancer patients, and adults with parents who have cancer.

RESEARCH

The American Cancer Society is one of the largest sources of cancer research funds in the United States, second only to the National Cancer Institute, the agency of the federal government.

The Society's overall investment in research each year has grown steadily from $1 million in 1946 to more than $49 million* today. This sum represents nearly a third of the total ACS budget. To date, the Society has invested more than half a billion dollars in cancer research.

The focus of the program is on individually developed projects, rather than directed research on a contract basis. With the exception of epidemiological work, the ACS neither hires staff researchers nor operates its own laboratories. This gives the Society the freedom to place its grants wherever the most promising work is being done.

A key factor in the role of the Society in cancer research is the value of providing qualified scientists with alternative sources for research funds. The Society believes it can make most effective use of its research funds by supporting scientists working in established medical institutions across the country. In this way there is a minimum of overhead and a

*Subject to audit. Includes $2 million in committee and operating expenses for evaluating and processing research applications.

SUMMARY OF RESEARCH GRANTS & FELLOWSHIPS AWARDED BY ACS (NATIONAL SOCIETY & DIVISIONS) DURING FISCAL YEAR ENDED AUGUST 31, 1979

Alabama, University of, Birmingham	(5)	$251,246.00
Albany Medical College of Union University, Albany, N Y	(1)	34,000.00
Allegheny General Hospital, Pittsburgh, Pa	(1)	25,000.00
American Health Foundation, New York, N Y	(1)	49,625.00
American Health Foundation, Valhalla, N Y	(1)	68,810.00
Amherst College, Amherst, Mass	(1)	12,000.00
Arizona University, Tucson	(3)	83,914.00
Arkansas, University of, Fayetteville	(1)	29,406.00
Baylor College of Medicine, Houston, Tex	(7)	331,784.00
Beth Israel Hospital, Boston, Mass	(2)	71,923.00
Birmingham-Southern College, Birmingham, Ala	(1)	10,000.00
Boston College, Chestnut Hill, Mass	(1)	79,570.00
Boston University, Boston, Mass	(7)	376,500.00
Brandeis University, Waltham, Mass	(7)	159,397.00
Brigham Young University, Provo, Utah	(1)	89,725.00
Brookdale Hospital Medical Center, Bklyn, N Y	(1)	45,000.00
Brown University, Providence, R I	(4)	243,751.00
California Institute of Technology, Pasadena, Calif	(2)	49,429.00
Calif , U. of, Calif , (Various Locations)	(65)	3,656,746.00
Cancer Research, Inc , New York, N Y	(1)	86,000.00
Carnegie-Mellon University, Pittsburgh, Pa	(2)	236,313.00
Case Western Reserve University, Cleveland, Ohio	(5)	240,677.00
Chicago, University of, Chicago, Ill	(16)	854,399.00
Children's Cancer Research Foundation, Boston, Mass	(2)	174,449.00
Children's Hospital Society, Los Angeles, Calif	(1)	125,000.00
Cincinnati, University of, Cincinnati, Ohio	(3)	147,638.00
City of Hope Nat Med Ctr , Duarte, Calif	(1)	69,016.00
Cold Spring Harbor Lab of Quantitative Bio , N Y	(2)	86,700.00
College of Medicine and Dentistry of New Jersey	(3)	261,249.00
Colorado State University, Fort Collins	(1)	69,451.00
Colorado, University of, Boulder	(15)	829,728.00
Columbia University, New York, N Y	(14)	1,035,015.00
Community Blood Council of Greater N Y	(2)	115,000.00
Connecticut, University of, Storrs	(8)	346,690.00
Cornell University, Ithaca, N Y	(3)	100,734.00
Cornell University, New York, N Y	(2)	194,771.00
Dartmouth College, Hanover, N H	(1)	102,238.00
Delaware, University of, Newark	(2)	107,410.00
Duke University, Durham, N C	(14)	1,035,015.00
Eastern Virginia Medical School, Norfolk	(1)	20,000.00
Emory University, Atlanta, Ga	(1)	18,268.00
Florida, University of, Gainesville	(3)	85,951.00
Fred Hutchinson Cancer Res Ctr , Seattle, Wash	(11)	831,307.00
Georgetown University, Washington, D C	(1)	43,042.00
Hahnemann Medical College, Philadelphia, Pa	(1)	3,500.00
Harvard School of Public Health, Boston, Mass	(1)	181,941.00
Harvard University, Boston, Mass	(23)	860,048.00
Hawaii, University of, Honolulu	(4)	215,490.00
Hospital for Joint Diseases, New York, N Y	(3)	185,638.00
Illinois, University of, Urbana	(2)	130,131.00
Indiana, University of, Bloomington	(3)	106,313.00
Institute for Cancer Res , Phila , Pa	(5)	284,375.00
Institute for Medical Research, Camden, N J	(1)	100,000.00
Iowa, State University of, Iowa City	(3)	64,801.00
Jackson Laboratory, Bar Harbor, Me	(5)	232,471.00
Jefferson Medical College, Philadelphia, Pa	(2)	138,922.00
Jewish Hospital of St Louis, Missouri	(1)	125,000.00
Johns Hopkins University, Baltimore, Md	(8)	391,675.00
Kansas State University, Manhattan	(1)	24,000.00
Kansas, University of, Lawrence	(1)	20,000.00
Karolinska Institutet, Stockholm, Sweden	(1)	12,125.00
Kentucky, University of, Lexington	(3)	235,480.00
La Jolla Cancer Research Foundation, Calif	(1)	14,294.00
Life Sciences Biomed Res , St Pet , Fla	(1)	90,000.00
Louisiana State University, Baton Rouge	(2)	174,805.00
Louisville, University of, Louisville, Ky	(1)	25,000.00
Maine, University of, Orono, Me	(1)	12,952.00
Mallory Institute of Pathology, Boston, Mass	(1)	50,044.00
Maryland, University of, Baltimore	(3)	236,250.00
Massachusetts General Hospital, Boston	(2)	244,871.00
Massachusetts Institute of Techology, Cambridge	(19)	808,488.00
Massachusetts, University of, Amherst	(4)	187,525.00
Mayo Foundation, Rochester, Minnesota	(2)	137,000.00
Medical College of Pennsylvania, Philadelphia	(1)	25,000.00
Medical College of Wisconsin, Milwaukee	(2)	166,349.00
Medical Research Council, Cambridge, England	(1)	24,902.00
Miami, University of, Coral Gables, Fla	(1)	30,000.00
Michigan Cancer Foundation, Detroit	(1)	8,000.00
Michigan State University, East Lansing	(2)	52,000.00
Michigan, University of, Ann Arbor	(4)	229,828.00
Minnesota, University of, Minneapolis	(6)	308,231.00
Mississippi, University of, Jackson	(2)	146,250.00
Missouri, University of, Columbia	(1)	90,244.00
Mount Sinai School of Medicine, New York, N Y	(7)	837,402.00
Mount Zion Hospital, San Francisco, Calif	(1)	45,000.00
National Academy of Sciences, Washington, D C	(1)	23,000.00
Nat Inst of Arth and Metab Dis , Bethesda, Md	(1)	22,000.00
National Society for Med Res , Wash , D C	(1)	5,000.00
NCI-Immunobiology Lab	(1)	24,207.00
NCI-Molecular Virology Lab	(1)	24,000.00
NCI-Neurochemistry Lab	(1)	22,000.00
Nebraska, University of, Omaha	(1)	25,000.00
New England Med Ctr Hosp , Boston, Mass	(1)	49,764.00
New Mexico, University of, Albuquerque	(1)	48,137.00
New Mexico State University, Las Cruces	(1)	22,584.00
New York University, New York	(10)	745,560.00
NIH Biochemistry Lab, Bethesda, Md	(1)	24,000.00
North Carolina, University of, Chapel Hill	(4)	208,700.00
North Texas State University, Denton	(1)	130,953.00
Northwestern University, Chicago, Ill	(2)	55,000.00
Oak Ridge Assoc Univ Inc , Tenn	(1)	12,000.00
Oak Ridge National Laboratory, Oak Ridge, Tenn	(1)	53,000.00
Ohio, Medical College of, Toledo	(1)	20,000.00
Ohio State University, Columbus	(5)	447,068.00
Oklahoma Coll of Oste Med and Surg , Tulsa	(1)	21,049.00
Oregon State College, Corvallis	(3)	143,500.00
Oregon, University of, Eugene	(5)	198,133.00
Pacific NW Res Fdtn , Seattle, Wash	(1)	39,293.00
Pennsylvania State University, University Park, Pa	(6)	207,034.00
Pennsylvania, University of, Philadelphia, Pa	(8)	500,518.00
Peralta Hospital Association, Oakland, Calif	(2)	213,089.00
Pittsburgh, University of, Pittsburgh, Pa	(3)	128,855.00
Princeton University, Princeton, N J	(3)	290,000.00
Public Health Research Institute, New York, N Y	(2)	178,276.00
Purdue University, Lafayette, Ind	(2)	170,625.00
Res Fdtn for Mental Hygiene Inc , N Y, N Y	(1)	3,500.00
Rochester, University of, Rochester, N Y	(6)	437,486.00
Rockefeller University, New York, N Y	(10)	515,494.00
Roswell Park Memorial Institute, Buffalo, N Y	(13)	727,299.00
Rutgers State U of N J , New Brunswick, N J	(1)	90,000.00
Salk Institute for Biological Studies, San Diego, Ca	(5)	257,150.00
Scripps Clinic Research Foundation, La Jolla, Calif	(10)	534,871.00
Sidney Farber Cancer Center, Boston, Mass	(4)	226,275.00
Sloan Kettering Inst for Cancer Res , N Y, N Y	(21)	1,596,783.00
Sloan Kettering Institute, Westchester, N Y	(6)	382,175.00
South Alabama, University of, Mobile	(1)	24,262.00
South Carolina, University of, Columbia	(2)	65,388.00
South Florida, University of, Tampa	(2)	83,015.00
Southern California, University of, Los Angeles	(6)	246,389.00
Southern Research Institute, Birmingham, Ala	(1)	68,636.00
SouthwestFdtn forRes andEduc , SanAntonio, Tex	(1)	21,000.00
St Jude Children's Res Hosp , Memphis, Tenn	(3)	106,386.00
St Louis University, St Louis, Mo	(2)	155,000.00
Stanford University, Stanford, Calif	(23)	1,266,025.00
State University of New York, Cortland	(1)	9,250.00
State University of New York, Brooklyn	(2)	113,937.00
State University of New York, Buffalo	(4)	383,084.00
State University of New York, Stony Brook	(9)	387,203.00
Syracuse University, Syracuse, N Y	(1)	39,930.00
Temple University, Philadelphia, Pa	(1)	48,000.00
Tennessee, University of, Memphis, Tenn	(3)	144,398.00
Texas, University of, Houston	(27)	4,980,198.00
Tissue Culture Association, Camden, N J	(1)	2,200.00
Tufts University, Medford, Mass	(3)	122,858.00
Tufts New England Medical Center, Boston, Mass	(1)	115,363.00
Univ Assoc forRes &Educ inPath , Inc , Beth , Md	(1)	33,690.00
University of Denver, Denver, Colo	(1)	90,000.00
Uppsala, University of, Uppsala, Sweden	(1)	25,100.00
Utah, University of, Salt Lake City	(3)	210,484.00
Vanderbilt University, Nashville, Tenn	(8)	363,992.00
Virginia Commonwealth University, Richmond	(3)	235,938.00
Virginia, Medical College of, Richmond, Va	(1)	30,000.00
Virginia Polytechnic Inst and State U , Blacksburg	(1)	15,000.00
Virginia, University of, Charlottesville	(6)	345,868.00
Wake Forest College, Winston-Salem, N C	(4)	330,613.00
Washington State University, Pullman	(1)	20,000.00
Washington, University of, Seattle	(8)	517,931.00
Washington University, St Louis, Mo	(10)	684,339.00
Wayne State University, Detroit, Mich	(3)	182,500.00
West Virginia University, Morgantown	(3)	119,407.00
Wisconsin, University of, Madison	(13)	702,647.00
Wistar Inst of Anat and Bio , Phila , Pa	(3)	269,164.00
Worcester Fdtn for Exper Bio , Shrewsbury, Mass	(1)	15,000.00
Yale University, New Haven, Conn	(26)	1,479,556.00
Yeshiva University, Bronx, N Y	(26)	1,860,416.00
Zurich, University of, Switzerland	(1)	24,806.00
Eleanor Roosevelt — ACS International Cancer Fellowships	(1)	425,000.00
Total (715)		44,223,076.00
Professional Programs of the UICC	(1)	60,000.00
Total		44,283,076.00
Division Research Grants		3,000,000.00
Total		$47,283,076.00

Note: Numbers in parentheses indicate number of grants per institution for the year ended August 31, 1979; totals subject to audit. The $47,283,076 figure does not include $2 million in committee and operating expenses for evaluating and processing research applications.

maximum of flexibility to make sure that research money yields results. Applications for ACS grants are carefully evaluated by scientific review committees and by the Board of Directors.

KINDS OF GRANTS

The Society makes five types of grants to support research: (1) "Research and Clinical Investigation Grants" to finance investigator-initiated research; (2) "Institutional Research Grants" to universities, institutes and hospitals to support pilot studies and the work of young investigators in the cancer field; (3) "Research Personnel Grants" to outstanding scientists and students specializing or planning to specialize in cancer research; (4) The "Research Development Program" to provide rapid funding for priority projects; and (5) "Special Institutional Grants for Cancer Cause and Prevention Research" to provide longer-term funding.

Research Professorship Program – This Research Personnel Grant program, unique in the field, has been in existence since 1957. The Society invests about $550,000 in it each year to support 20 of the nation's most gifted scientists. These are people devoting their life's work to cancer research. Freed of major administrative responsibilities and other restrictions, they can concentrate on their chosen fields of scientific investigation.

Research Development Program – This was established to identify and provide rapid funding for high priority projects. Approved applications can be funded in less than three months from the date submitted. This compares with 10-18 months required by the federal government before a new approved application can be funded. An initial sum of $5 million is being provided for these grants.

The kinds of research projects eligible under the Research Development Program include: (1) Unique research opportunities which cannot wait for the normal lengthy funding procedures; (2) Unanticipated needs relating to research already under way; (3) Program coordination, especially that involving clinical trials and the dissemination of research results to community hospitals; and (4) Program integration between the American Cancer Society and other health organizations.

All applications are evaluated for – among other considerations–merit, qualifications and productivity of the investigator, relevance, need for rapid funding, and probability of the project's eventual contribution to cancer control.

Special Institutional Grants for Cancer Cause and Prevention Research – This new type of grant provides substantial, flexible and relatively long-term support for interdisciplinary research programs, especially those involving the study and prevention of environmentally related cancer. Each grant is $200,000 or less per year, for up to five years.

THE FINANCIAL RESEARCH PICTURE

In fiscal 1979 (Sept. 1, 1978 through Aug. 31, 1979), the ACS made more than 700 grants to major institutions in this country and to scientists working both here and abroad. The total amount, subject to audit, was over $44 million. This does not include some $3 million granted directly by ACS Divisions.

The following table – covering the years 1973 to 1979 inclusive – lists the total number of grant applications received, total grants funded annually by the ACS's National Office and the dollar amount and number of applications approved but *not* funded. The ACS allocates its funds based on a three-pronged attack against cancer involving Research, Education, Service and Rehabilitation. Our commitment to continuing and expanding these programs in all three areas has resulted in a number of scientifically qualified research proposals not being funded.

	REQUESTED		FUNDED		APPROVED BUT NOT FUNDED	
Year	Number	Amount	Number	Amount†	Number	Amount
1973	1,260	75,849,496	503	20,180,878	427	27,092,335
1974	1,613	105,095,040	477	21,557,695	903	50,643,280
1975	1,456	106,069,802	475	22,320,799	746	44,522,925
1976	1,572	117,059,144	542	26,903,873	776	53,298,055
1977	1,696	138,887,083	630	34,263,941	750	56,940,343
1978	1,912	162,535,560	641	33,193,448	1,115	87,578,200
1979	1,940	171,999,099	715	44,223,076*	1,103	88,283,042

†For the years 1973-79, ACS chartered Divisions spent an additional average of $2,800,000 per year for research.
*Subject to audit.

ACS-SUPPORTED NOBELISTS

DR. DANIEL NATHANS and DR. HAMILTON O. SMITH, Johns Hopkins microbiologists who have received ACS grants over the years, shared the 1978 Nobel Prize in Medicine with Swiss scientist Dr. Werner Arber. Nathans and Smith made possible the decoding of a cancer-causing virus, SV40, yielding the largest genetic message yet decoded. It may shed more light on how the cancer process starts and stops. Arber discovered a class of enzymes called endonucleases, Smith later found a specific kind of endonuclease, and Nathans applied endonuclease to genetic decoding.

Two ACS Research Professors, DR. DAVID BALTIMORE and DR. HOWARD M. TEMIN, shared the 1975 Nobel Prize for Medicine with another researcher for their work in viruses and genetics. Among other things, it led to the discovery that DNA is not always the "master molecule" and may be produced by RNA.

DR. ROBERT W. HOLLEY (ACS Research Professor) received the Nobel Prize in 1968 along with two other Americans for discovering the process by which enzymes determine a cell's function in genetic development.

DR. CHARLES HUGGINS ('66) was the first to demonstrate the importance of hormones in the development and treatment of cancer of the prostate and breast. DR. PEYTON ROUS ('66) first demonstrated that viruses are a cause of cancer in animals. DR. JAMES WATSON ('62) with his colleagues discovered the "architecture" of DNA. DR. SEVERO OCHOA ('59) and his associates disclosed how the DNA molecule is synthesized. DRS. GEORGE W. BEADLE and EDWARD TATUM ('58) uncovered the mechanism by which the gene transmits a hereditary trait or function.

CURRENT RESEARCHERS

Eminent scientists now working under ACS grants include: DR. CHARLES HEIDELBERGER, who synthesized the drug 5-fluorouracil (5-FU), one of the major agents for the treatment of skin cancer, breast cancer and cancer of the gastrointestinal tract; DR. DAN H. MOORE, who was one of the first to detect and study the presence of virus particles in breast cancer; DR. ELLIOT F. OSSERMAN, a pioneer in the study of multiple myeloma and some forms of leukemia; DR. BERNARD FISHER, who is studying alternatives to radical breast cancer surgery, including post-operative chemotherapy; DR. JOSEPH BERTINO, who is studying enzyme protection and how to increase the tolerance of patients to methotrexate – a valuable but toxic drug; DR. CHARLES McKHANN, who is developing methods to detect immune defense mechanisms in animal and human cancers; DR. ELWOOD V. JENSEN, who is testing growth of hormone-dependent tissues for use in breast cancer therapy; DR. BERNARD ROIZMAN, whose long-term investigation of herpesviruses may have practical relationships to certain human malignancies; DR. G. BARRY PIERCE, a leader in cancer biology who is studying the cell differentiation in various cancers; DR. EARLE C. GREGG, who is developing radiological methods for detecting soft-tissue tumors; DR. VINCENT G. ALLFREY, pioneer investigator of the chromosomal proteins, who is continuing to work on their role in gene activation; DR. H. SHERWOOD LAWRENCE, who discovered transfer factor, and is attempting to develop an *in vitro* assay for that substance; DR. HERMAN M. KALCKAR, the renowned biochemist who is now investigating sugar uptake and metabolism in tumor cells; DR. PAUL BERG, whose DNA research has led to new approaches in analyzing the structure of viral chromosomes, and a better understanding of cell growth and division in higher organisms; DR. EDWARD A. BOYSE, who discovered a series of antigen systems which can be used to characterize tumor cells as well as normal lymphocytes; and DR. STANLEY COHEN, who by his discovery of the epidermal growth factor (EGF) has contributed significantly to our understanding of cellular growth in animal tissues.

CANCER AND THE ENVIRONMENT

A majority of all cancer cases in the United States today are believed to be environmentally related; that is, associated in some way with our physical surroundings or with our personal habits and lifestyles.

Some environmental causes of cancer are well known. About 20 percent of all cancers in this country are directly related to the use of tobacco, either alone or in conjunction with excessive consumption of alcohol.

Exposure to occupational hazards, although associated with only a small percentage of cancers in this country, are under close surveillance. Virtually every suspected major chemical hazard discussed in the popular news media is already being investigated. One limiting factor is that each study can cost hundreds of thousands of dollars, and take years to complete.

Some suspected environmental links to cancer are very difficult to pin down. One of them is diet, which some experts have associated with major cancer sites. So far, however, the evidence that diet and cancer are related is only indirect in most cases, coming from animal studies and from comparisons of human cancer rates in various countries where different foods are eaten.

ENVIRONMENTAL CANCER RESEARCH PROJECT

To help identify factors in the environment which play a role in human cancer, the American Cancer Society in 1971 embarked on an extensive Environmental Cancer Research Project. The project involves: 1) a resumption of the Society's Cancer Prevention Study; and 2) studies of groups directly or indirectly exposed to industrial products which are suspected of causing cancer.

CANCER PREVENTION STUDY

Originally, this was a six-year study begun in 1959 in which 68,000 ACS volunteers in 25 states questioned more than one million individuals on their habits, heredity, history of disease, etc. The study was highly successful. After the last follow-up in 1965, about 30 papers were published, including important information on smoking, air pollution, and risk factors in relation to cancer and other diseases.

The study was resumed in 1971 to (1) analyze some of the factors involving the less common sites of cancer; (2) determine if the general reduction of tar and nicotine content in cigarettes in the last 20 years has been reflected in a lowering of cancer death rates; and (3) provide data on cancer death rates for persons not exposed to occupational agents suspected of causing cancers, as a control for the studies of occupational groups.

The subjects were traced in 1971 and 1972. Ninety-eight percent of those in the study were traced (dead or alive) in 1971, and 92 percent were traced in 1972.

One result of the resumption of the Cancer Prevention Study was a 12-year study showing that smokers of low tar and nicotine cigarettes have lower death rates than those who smoke medium or high tar and nicotine brands.

Information from the study also was used to compute breast cancer mortality rates in relation to risk factors (symptoms, family history, history of cancer, etc.).

We are now tracing the subjects in the Cancer Prevention Study who are living to a very advanced age to see if there are any specific factors that contribute to their longevity, such as diet, lifestyle, environment, or heredity.

STUDIES OF OCCUPATIONAL GROUPS

With the cooperation of industry and labor unions, a number of studies of union workers exposed to various agents have been started. For example, it has been found that asbestos workers have a high risk of lung cancer, gastrointestinal cancer and other conditions, and that even short-term exposure carries an extra lung cancer risk.

One important asbestos study concerns possible health hazards to persons who lived within a half-mile radius of an asbestos manufacturing plant more than 30 years ago. They were exposed to minimal amounts of asbestos dust from chimneys and open windows of the plant. Their death rates, both from cancer and all causes, were found to be no higher than those of another group of the same age and socio-economic levels, living in the same city, but who were not exposed to asbestos from the plant. We are now studying the mortality of family members of asbestos workers to determine if they have an extra risk of lung cancer and other asbestos-associated risks.

A study of roofers exposed to benzo[a]pyrene showed that after 20 years of exposure, this kind of worker had elevated death rates from cancer of the lung and several other sites.

A study of anesthesiologists, however, showed no increase in mortality rates, and a report on cotton textile workers found no elevated incidence of lung cancer, despite other respiratory problems. Occupational groups under continuing investigation include vinyl chloride workers, painters and workers in rubber plants.

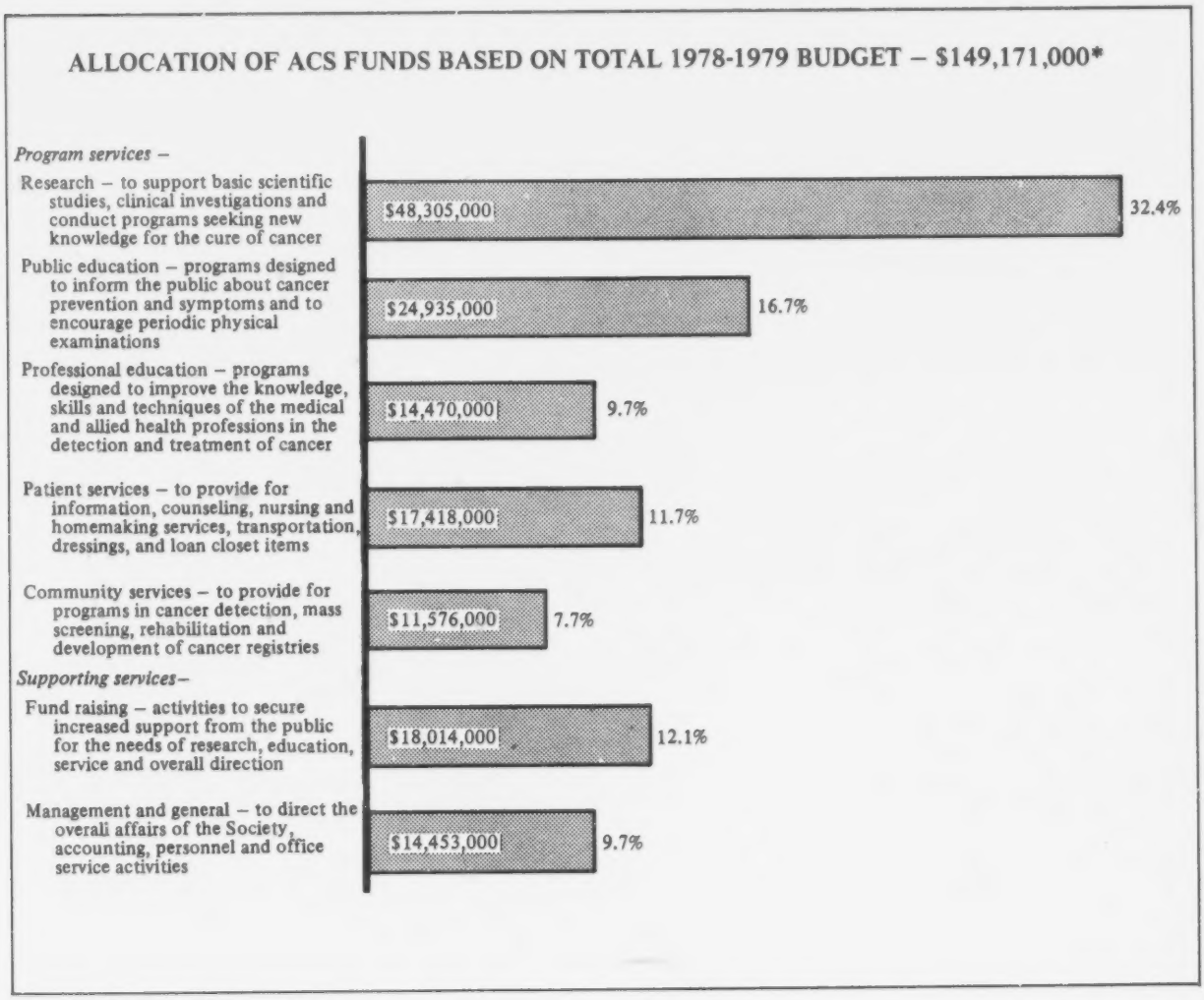
COSTS OF CANCER

A 1979 report by the Department of Health, Education and Welfare places the direct cost of treating neoplasms (mostly cancers) at a total of $5.3 billion for fiscal 1975, the most recent year for which information is complete. Of that figure, 78.3 percent, or $4.1 billion, went for hospital care; 12.7 percent, or $671 million, was spent on physicians' services. The remaining 9 percent, or $473.5 million, covered other professional services, drugs and nursing home care.

The indirect costs of neoplasms are far greater, taking into account reduced or lost earning power due to illness and death. Estimates range from $13.7 billion to $22.7 billion, making cancer and other neoplasms the most costly group of diseases after circulatory disorders.

A 1978 *Consumer Reports* study estimated the average price tag of cancer to be about $20,000 per case for direct medical services, with the exception of minor forms of skin cancer.

The cost to the patient and his family can differ enormously, depending on how advanced the cancer is when diagnosis is made. Even basic hospital charges can run $200 or more per day, and *Consumer Reports* says an average hospital visit for a cancer patient is 15 days.


ALLOCATION OF ACS FUNDS BASED ON TOTAL 1978-1979 BUDGET – $149,171,000*
Program services –
Research – to support basic scientific studies, clinical investigations and conduct programs seeking new knowledge for the cure of cancer
$48,305,000
32.4%
Public education – programs designed to inform the public about cancer prevention and symptoms and to encourage periodic physical examinations
$24,935,000
16.7%
Professional education – programs designed to improve the knowledge, skills and techniques of the medical and allied health professions in the detection and treatment of cancer
$14,470,000
9.7%
Patient services – to provide for information, counseling, nursing and homemaking services, transportation, dressings, and loan closet items
$17,418,000
11.7%
Community services – to provide for programs in cancer detection, mass screening, rehabilitation and development of cancer registries
$11,576,000
7.7%
Supporting services–
Fund raising – activities to secure increased support from the public for the needs of research, education, service and overall direction
$18,014,000
12.1%
Management and general – to direct the overall affairs of the Society, accounting, personnel and office service activities
$14,453,000
9.7%

*Figures taken from 1978 Annual Report

SOURCES OF INCOME

Financial support of the American Cancer Society in fiscal 1979 is estimated to exceed $134 million from public sources. The Cancer Crusade raised about $102 million. National Headquarters and chartered Divisions received some $32 million from bequests and legacies. The public has given generous and growing support to the Crusade over the years. In 1944, for example, the Society raised $800,000. Thirty years later, in 1974, that figure had soared to more than $96 million.

Legacies—in which the Society becomes beneficiary of willed funds—are an increasingly important source of ACS income. Income from legacies indicates confidence in the leadership of the Society and a determination by many Americans to continue the fight against cancer even after their lifetime. Legacy income in relation to Crusade receipts is shown below.

Year	Crusade	Legacies	Year	Crusade	Legacies
1969	46,605,435	14,407,712	1974	72,152,315	24,116,620
1970	50,147,609	15,099,088	1975	78,788,160	31,056,259
1971	56,427,471	13,636,651	1976	84,882,450	33,968,066
1972	62,044,243	16,774,295	1977	90,120,508	24,605,566
1973	67,784,862	25,228,782	1978	95,927,848	30,178,722

CELEBRITIES AND CANCER

Cancer has struck many persons of world and national fame. Such personalities as Bess Myerson and Van Johnson have had cancer; other well-known people are: Betty Ford, Happy Rockefeller, Shirley Temple Black and Senator Frank Church; theater's Richard Rogers; television's Virginia Graham, Betty Rollin, Arthur Godfrey and Amanda Blake; pro-football's Jack Pardee and golf's Gene Littler.

Most people in public life are reluctant to talk about their personal involvement with this or any disease, so actual records are sparse. Even among those lost to cancer the death cause is not always accurate. The toll of world figures with each passing year is a dramatic reminder of the full dimensions of cancer's human devastation.

Past victims in various fields include:

Entertainment
Bud Abbott
Tallulah Bankhead
Jack Benny
Humphrey Bogart
George M. Cohan
Gary Cooper
Andy Devine
Duke Ellington
Susan Hayward
Alfred Lunt
Ted Mack
Frederic March
Ozzie Nelson
Lily Pons
Minnie Riperton
Rosalind Russell
Vivian Vance
John Wayne

Science
Marie Curie
Tom Dooley
Charles A. Lindbergh
Margaret Mead
Peyton Rous

Literature
Rachel Carson
T.S. Eliot
Edna Ferber
Erle Stanley Gardner
Lorraine Hansberry
Damon Runyon
Cornelius Ryan
Gertrude Stein
Jacqueline Susann

Communications
Stewart Alsop
Chet Huntley
Frank McGee
Walter Winchell

Sports
Ty Cobb
Walter Hagen
Fred Hutchinson
Vincent Lombardi
Babe Ruth
Casey Stengel
Babe Didrikson Zaharias

Politics
Marvella Bayh
Chou En-lai
Sen. Hubert H. Humphrey
Golda Meir
U Thant

Business
J. Paul Getty
Charles H. Revson
Toots Shor

Died of Lung Cancer
Jacques Brel
Nat "King" Cole
Walt Disney
King George VI of England
Betty Grable
Buster Keaton
Edward R. Murrow
Boris Pasternak
Robert Ryan
William Talman
Robert Taylor

COMPREHENSIVE CANCER CENTERS

Alabama
Comprehensive Cancer Center
University of Alabama in Birmingham
University Station
Birmingham, Alabama 35294
Phone: (205) 934-5077

California
Los Angeles County-University of Southern California Comprehensive Cancer Center
2025 Zonal Avenue
Los Angeles, California 90033
Phone: (213) 226-2008

UCLA Comprehensive Cancer Center
UCLA School of Medicine
924 Westwood Boulevard, Suite 650
Los Angeles, California 90024
Phone: (213) 825-1532
(213) 825-5268

Connecticut
Yale University Comprehensive Cancer Center
333 Cedar Street
New Haven, Connecticut 06510
Phone: (203) 432-4122

District of Columbia
Georgetown University/Howard University Comprehensive Cancer Center
Vincent T. Lombardi Cancer Research Center
Georgetown University Medical Center
3800 Reservoir Road, N.W.
Washington, D.C. 20007
Phone: (202) 625-7066

Howard University Cancer Research Center
College of Medicine
Washington, D.C. 20059
Phone: (202) 745-1406

Florida
Comprehensive Cancer Center for the State of Florida
University of Miami School of Medicine/ Jackson Memorial Medical School
P.O. Box 016960
Miami, Florida 33101
Phone: (305) 547-6758

Illinois
Illinois Cancer Council
36 S. Wabash Avenue, Suite 700
Chicago, Illinois 60603
Phone: (312) 346-9813

Maryland
Johns Hopkins Oncology Center
601 North Broadway
Baltimore, Maryland 21205
Phone: (301) 955-8822

Massachusetts
Sidney Farber Cancer Institute
44 Binney Street
Boston, Massachusetts 02115
Phone: (617) 732-3555

Michigan
Cancer Center of Metropolitan Detroit
110 East Warren Avenue
Detroit, Michigan 48201
Phone: (313) 833-0710

Minnesota
Mayo Comprehensive Cancer Center
200 First Street, S.W.
Rochester, Minnesota 55901
Phone: (507) 282-2511

New York
Cancer Center/Institute of Cancer Research
Columbia University
701 W. 168th Street
New York, New York 10032
Phone: (212) 694-3807

Memorial Sloan-Kettering Cancer Center
1275 York Avenue
New York, New York 10021
Phone: (212) 794-7585

Roswell Park Memorial Institute
666 Elm Street
Buffalo, New York 14263
Phone: (716) 845-5770

North Carolina
Comprehensive Cancer Center
Duke University Medical Center
P.O. Box 3814
Durham, North Carolina 27710
Phone: (919) 684-2282

Ohio
Ohio State University Comprehensive Cancer Center
357 McCampbell Drive
Columbus, Ohio 43210
Phone: (614) 422-5022

Pennsylvania
Fox Chase/University of Pennsylvania Comprehensive Cancer Center
The Fox Chase Cancer Center
7701 Burholme Avenue
Philadelphia, Pennsylvania 19111
Phone: (215) 342-1000

University of Pennsylvania Cancer Center
578 Maloney Building
3400 Spruce Street
Philadelphia, Pennsylvania 19104
Phone: (215) 662-3910

Texas
The University of Texas System Cancer Center
M.D. Anderson Hospital and Tumor Institute
6723 Bertner Avenue
Houston, Texas 77030
Phone: (713) 792-3000

Washington
Fred Hutchinson Cancer Research Center
1124 Columbia Street
Seattle, Washington 98104
Phone: (206) 292-2930

Wisconsin
The University of Wisconsin Clinical Cancer Center
1300 University Avenue
Madison, Wisconsin 53706
Phone: (608) 263-2553

CHARTERED DIVISIONS OF THE AMERICAN CANCER SOCIETY, INC.

Alabama Division, Inc.
2926 Central Avenue
Birmingham, Alabama 35209
(205) 879-2242

Alaska Division, Inc.
1343 G Street
Anchorage, Alaska 99501
(907) 277-8696

Arizona Division, Inc.
634 West Indian School Road
P.O. Box 33187
Phoenix, Arizona 85067
(602) 264-5861

Arkansas Division, Inc.
5520 West Markham Street
P.O. Box 3822
Little Rock, Arkansas 72203
(501) 664-3480-1-2

California Division, Inc.
731 Market Street
San Francisco, California 94103
(415) 777-1800

Colorado Division, Inc.
1809 East 18th Avenue
P.O. Box 18268
Denver, Colorado 80218
(303) 321-2464

Connecticut Division, Inc.
Barnes Park South
14 Village Lane
P.O. Box 410
Wallingford, Connecticut 06492
(203) 265-7161

Delaware Division, Inc.
Academy of Medicine Bldg.
1925 Lovering Avenue
Wilmington, Delaware 19806
(302) 654-6267

District of Columbia Division, Inc.
Universal Building, South
1825 Connecticut Avenue, N.W.
Washington, D.C. 20009
(202) 483-2600

Florida Division, Inc.
1001 South MacDill Avenue
Tampa, Florida 33609
(813) 253-0541

Georgia Division, Inc.
1422 W. Peachtree Street, N.W.
Atlanta, Georgia 30309
(404) 892-0026

Hawaii Division, Inc.
Community Services Center Bldg.
200 North Vineyard Boulevard
Honolulu, Hawaii 96817
(808) 531-1662-3-4-5

Idaho Division, Inc.
1609 Abbs Street
P.O. Box 5386
Boise, Idaho 83705
(208) 343-4609

Illinois Division, Inc.
37 South Wabash Avenue
Chicago, Illinois 60603
(312) 372-0472

Indiana Division, Inc.
4755 Kingsway Drive, Suite 100
Indianapolis, Indiana 46205
(317) 257-5326

Iowa Division, Inc.
Highway #18 West
P.O. Box 980
Mason City, Iowa 50401
(515) 423-0712

Kansas Division, Inc.
3003 Van Buren Street
Topeka, Kansas 66611
(913) 267-0131

Kentucky Division, Inc.
Medical Arts Bldg.
1169 Eastern Parkway
Louisville, Kentucky 40217
(502) 459-1867

Louisiana Division, Inc.
Masonic Temple Bldg., Room 810
333 St. Charles Avenue
New Orleans, Louisiana 70130
(504) 523-2029

Maine Division, Inc.
Federal and Green Streets
Brunswick, Maine 04011
(207) 729-3339

Maryland Division, Inc.
200 East Joppa Road
Towson, Maryland 21204
(301) 828-8890

Massachusetts Division, Inc.
247 Commonwealth Avenue
Boston, Massachusetts 02116
(617) 267-2650

Michigan Division, Inc.
1205 East Saginaw Street
Lansing, Michigan 48906
(517) 371-2920

Minnesota Division, Inc.
2750 Park Avenue
Minneapolis, Minnesota 55407
(612) 871-2111

Mississippi Division, Inc.
345 North Mart Plaza
Jackson, Mississippi 39206
(601) 362-8874

Missouri Division, Inc.
715 Jefferson Street
P.O. Box 1066
Jefferson City, Missouri 65101
(314) 636-3195

Montana Division, Inc.
2820 First Avenue South
Billings, Montana 59101
(406) 252-7111

Nebraska Division, Inc.
Overland Wolfe Centre
6910 Pacific Street, Suite 210
Omaha, Nebraska 68106
(402) 551-2422

Nevada Division, Inc.
953-35B East Sahara
Suite 101 ST&P Bldg.
Las Vegas, Nevada 89104
(702) 733-7272

New Hampshire Division, Inc.
22 Bridge Street
Manchester, New Hampshire 03101
(603) 669-3270

New Jersey Division, Inc.
2700 Route 22, P.O. Box 1220
Union, New Jersey 07083
(201) 687-2100

New Mexico Division, Inc.
525 San Pedro, N.E.
Albuquerque, New Mexico 87108
(505) 262-1727

New York State Division, Inc.
6725 Lyons Street
P.O. Box 7
East Syracuse, New York 13057
(315) 437-7025

☐ **Long Island Division, Inc.**
535 Broad Hollow Road
(Route 110)
Melville, New York 11747
(516) 420-1111

☐ **New York City Division, Inc.**
19 West 56th Street
New York, New York 10019
(212) 586-8700

☐ **Queens Division, Inc.**
111-15 Queens Boulevard
Forest Hills, New York 11375
(212) 263-2224

☐ **Westchester Division, Inc.**
246 North Central Avenue
Hartsdale, New York 10530
(914) 949-4800

North Carolina Division, Inc.
222 North Person Street
P.O. Box 27624
Raleigh, North Carolina 27611
(919) 834-8463

North Dakota Division, Inc.
Hotel Graver Annex Bldg.
115 Roberts Street
P.O. Box 426
Fargo, North Dakota 58102
(701) 232-1385

Ohio Division, Inc.
453 Lincoln Bldg.
1367 East Sixth Street
Cleveland, Ohio 44114
(216) 771-6700

Oklahoma Division, Inc.
1312 N.W. 24th Street
Oklahoma City, Oklahoma 73106
(405) 525-3515

Oregon Division, Inc.
910 N.E. Union Avenue
Portland, Oregon 97232
(503) 231-5100

Pennsylvania Division, Inc.
Route 422 & Sipe Avenue
P.O. Box 416
Hershey, Pennsylvania 17033
(717) 533-6144

☐ **Philadelphia Division, Inc.**
21 South 12th Street
Philadelphia, Pennsylvania 19107
(215) 665-2900

Puerto Rico Division, Inc.
(Avenue Domenech 273
Hato Rey, P. R.)
GPO Box 6004
San Juan, Puerto Rico 00936
(809) 764-2295

Rhode Island Division, Inc.
345 Blackstone Blvd.
Providence, Rhode Island 02906
(401) 831-6970

South Carolina Division, Inc.
2442 Devine Street
Columbia, South Carolina 29205
(803) 787-5623

South Dakota Division, Inc.
1025 North Minnesota Avenue
Hillcrest Plaza
Sioux Falls, South Dakota 57104
(605) 336-0897

Tennessee Division, Inc.
2519 White Avenue
Nashville, Tennessee 37204
(615) 383-1710

Texas Division, Inc.
3634 Spicewood Springs Road
P.O. Box 9863
Austin, Texas 78766
(512) 345-4560

Utah Division, Inc.
610 East South Temple
Salt Lake City, Utah 84102
(801) 322-0431

Vermont Division, Inc.
13 Loomis Street, Drawer C
Montpelier, Vermont 05602
(802) 223-2348

Virginia Division, Inc.
3218 West Cary Street
P.O. Box 7288
Richmond, Virginia 23221
(804) 359-0208

Washington Division, Inc.
2120 First Avenue North
Seattle, Washington 98109
(206) 283-1152

West Virginia Division, Inc.
Suite 100
240 Capital Street
Charleston, West Virginia 25301
(304) 344-3611

Wisconsin Division, Inc.
611 North Sherman Avenue
P.O. Box 1626
Madison, Wisconsin 53701
(608) 249-0487

☐ **Milwaukee Division, Inc.**
6401 West Capitol Drive
Milwaukee, Wisconsin 53216
(414) 461-1100

Wyoming Division, Inc.
Indian Hills Center
506 Shoshoni
Cheyenne, Wyoming 82001
(307) 638-3331

Affiliate of the
American Cancer Society
Canal Zone Cancer Committee
Drawer A
Balboa Heights, Canal Zone

NATIONAL HEADQUARTERS: AMERICAN CANCER SOCIETY, INC., 777 THIRD AVENUE, NEW YORK, N.Y. 10017

79–500M–10/79–No. 5008–LE